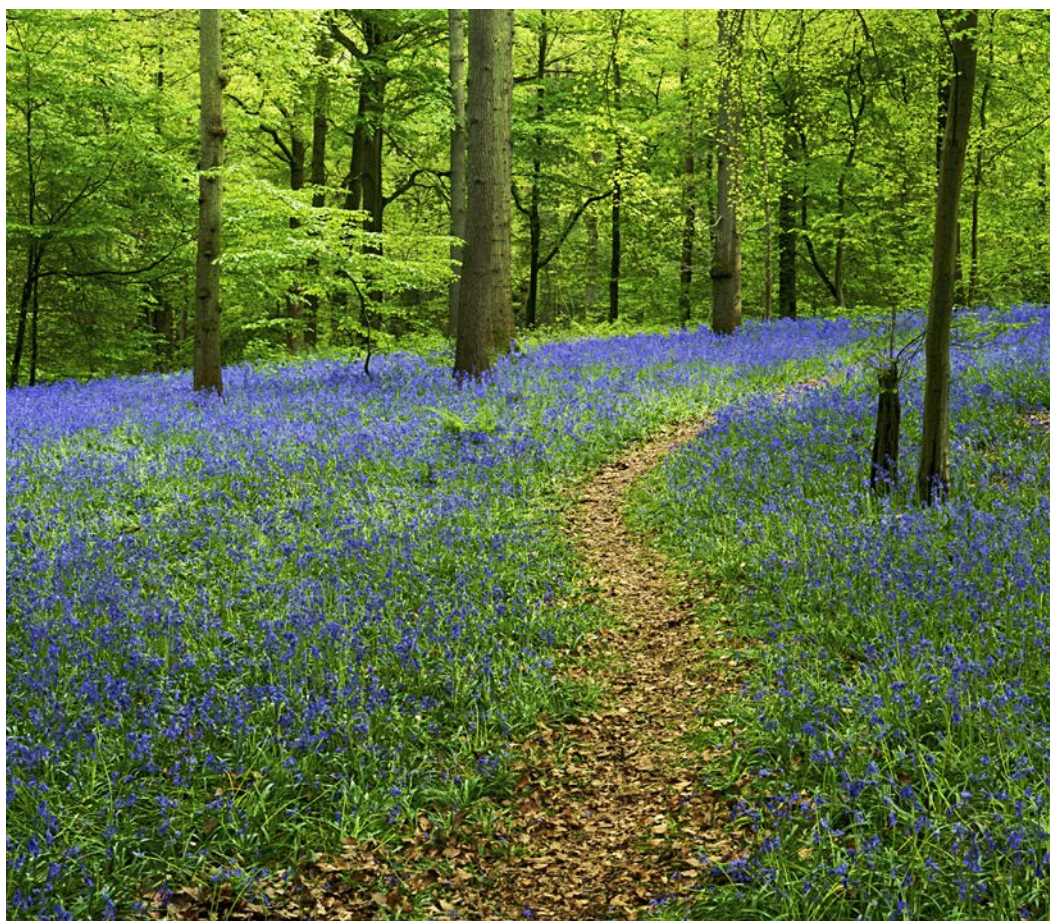


# Basic Skills For Living With Diabetes





# Your Diabetes Management Plan

<b>Name:</b> _____	<b>Date:</b> _____						
<b>Diabetes medicines:</b> _____							
<b>Food recommendations:</b> _____							
<b>Physical activity recommendations:</b> _____							
<b>Blood glucose testing schedule:</b> Name of meter: _____ When to test: <input type="checkbox"/> before breakfast <input type="checkbox"/> after breakfast <input type="checkbox"/> before lunch <input type="checkbox"/> after lunch <input type="checkbox"/> before dinner <input type="checkbox"/> after dinner <input type="checkbox"/> at bedtime <input type="checkbox"/> other							
<b>Recommended blood glucose levels:</b> <table><tr><td><b>Before meals:</b></td><td><b>Two hours after meals:</b></td><td><b>At bedtime:</b></td></tr><tr><td>Between 80 - 130 mg/dL</td><td>Less than 160 - 180 mg/dL</td><td>100 - 140 mg/dL</td></tr></table> <p>These levels may vary from person to person. Check with your health care provider or diabetes educator to see if these are safe levels for you.</p>		<b>Before meals:</b>	<b>Two hours after meals:</b>	<b>At bedtime:</b>	Between 80 - 130 mg/dL	Less than 160 - 180 mg/dL	100 - 140 mg/dL
<b>Before meals:</b>	<b>Two hours after meals:</b>	<b>At bedtime:</b>					
Between 80 - 130 mg/dL	Less than 160 - 180 mg/dL	100 - 140 mg/dL					
<b>Call your health care provider or diabetes educator if your:</b> <input type="checkbox"/> blood glucose is lower than 70 mg/dL two times in 1 day or 2 days in 1 week <b>or</b> <input type="checkbox"/> blood glucose is greater than _____ for 2 to 3 days							
<b>Important phone numbers:</b> Phone: _____ Appointment Date: _____ Health care provider: _____ Diabetes nurse educator: _____ Diabetes nutrition educator: _____							
<b>Ask your health care provider or diabetes educator about more diabetes educational services.</b>							

# Your Insulin Plan

## Goal:

Fasting: Blood glucose range \_\_\_\_\_ mg/dL

Blood glucose range before meals \_\_\_\_\_ mg/dL

Blood glucose range 2 hours after meals \_\_\_\_\_ mg/dL

Breakfast		
Test your blood glucose: <input type="checkbox"/> before <input type="checkbox"/> after		
Insulin	Type	Amount
	_____	_____
Time taken: _____ a.m. p.m.		

Lunch		
Test your blood glucose: <input type="checkbox"/> before <input type="checkbox"/> after		
Insulin	Type	Amount
	_____	_____
Time taken: _____ a.m. p.m.		

Dinner		
Test your blood glucose: <input type="checkbox"/> before <input type="checkbox"/> after		
Insulin	Type	Amount
	_____	_____
Time taken: _____ a.m. p.m.		

Bedtime		
Test your blood glucose: <input type="checkbox"/> before <input type="checkbox"/> after		
Insulin	Type	Amount
	_____	_____
Time taken: _____ a.m. p.m.		

# Basic Skills For Living With Diabetes

*Seventh edition*

Developed by Allina Health.

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The publisher believes that information in this manual was accurate at the time the manual was published. However, because of the rapidly changing state of scientific and medical knowledge, some of the facts and recommendations in the manual may be out-of-date by the time you read it. Your health care provider is the best source for current information and medical advice in your particular situation.

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## Disclaimer

This publication is for general information only and is not intended to provide specific advice or recommendations for any individual. The information it contains cannot be used to diagnose medical conditions or prescribe treatment. The information provided is designed to support, not replace, the relationship that exists between a patient and his/her existing physician.

For specific information about your health condition, please contact your health care provider.





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# Chapter 1:

## Diabetes Overview

### **In This Chapter:**

- Introduction
- How Diabetes Affects Your Body
- Diagnosing Diabetes
- How Insulin Works
- Normal Body Cell
- Insulin Resistant Body Cell
- Tools for Managing Diabetes
- Making Changes





# Chapter 1: Diabetes Overview

## Introduction

### \*Note

The word glucose will be used all through the book instead of the word sugar so it does not get confused with the sugar in food.

This section contains information on:

- how diabetes affects your body
- how food, physical activity, stress management and medicines can help you control your diabetes
- how to use a diabetes management plan.

Diabetes is a lifelong disease that cannot be cured but it can be controlled. Having diabetes means that your body is having problems using the energy from the foods you eat. This energy comes from all foods including carbohydrates (starches and sugars), proteins and fat. After you eat, the food is turned into glucose\* that is used by your cells for fuel.

It is important to remember that carbohydrates have the biggest effect on glucose levels. With diabetes, your body has trouble moving the glucose from your blood into your cells. This causes the glucose level in your blood to rise.

Keeping your blood glucose as close to normal as possible can help you feel better and give you more energy. Good control also helps you avoid problems with your eyes, heart, kidneys, nerves and blood vessels.

You and your health care team will work together to find the best ways to control your diabetes. You are the key member of your team, which also includes your health care provider, nurse and specialists. Your team may also include a diabetes educator, dietitian, eye doctor, pharmacist, exercise specialist and others.

Your team members are available to help. If you have questions or concerns about your diabetes or about your health in general, it is important to call your clinic.

You will be making changes to manage your diabetes well. Only you can decide to make the changes. Deciding what changes to make may seem overwhelming. Lasting changes are made by taking small steps. You are not expected to change your whole life overnight.

It is common to feel frustrated. Your health care team can help you as you deal with your feelings. They can also help you when you are planning to make changes. It is important to know that you did not cause your diabetes. An understanding of what causes diabetes is far from complete. Your health care provider, nurse or diabetes educator can talk with you about this.

## How Diabetes Affects Your Body

There are several types of diabetes. Type 1, type 2 and gestational diabetes are the three most common types.

- **Type 1:** Your pancreas makes very little or no insulin. Your body needs insulin to move glucose from your blood into your cells for energy.
- **Type 2:** Your pancreas still produces some insulin, but your body does not use it like it should. This is called insulin resistance.
- **Gestational:** Your pancreas does not make the extra insulin that is needed during pregnancy.

When insulin does not work correctly, the glucose from food stays in your blood (instead of moving into your cells). You may have the following symptoms:

- increased thirst
- frequent urination
- less energy
- unexplained weight loss
- dry skin
- blurred vision
- hunger
- frequent yeast infections
- sores that do not heal.

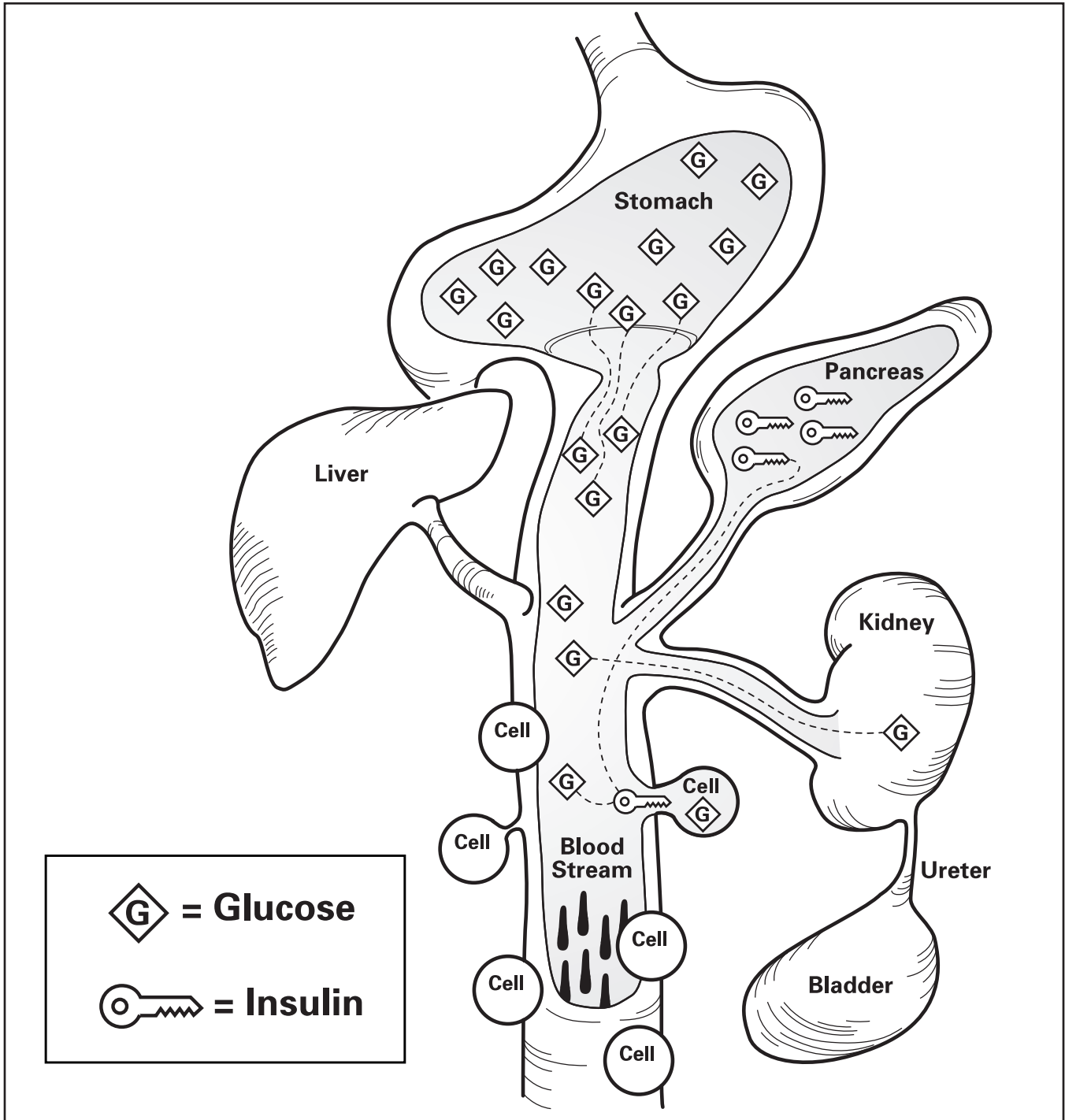
# Diagnosing Diabetes

Diabetes is not diagnosed by the symptoms listed on the previous page. You must have a test to measure blood glucose to find out if you have diabetes.

Diagnosis	Tests		A1c
	Fasting	Random	
<b>Diabetes</b>	126 mg/dL or higher on two occasions	200 mg/dL or higher (with symptoms)	6.5 percent or higher
<b>Prediabetes</b>	100 to 125 mg/dL (IFG*: when your blood glucose is too high in the morning)	140 to 199 mg/dL (IGT**: when your blood glucose is too high during the day)	5.7 to 6.4 percent
<b>No diabetes</b>	less than 100 mg/dL	less than 140 mg/dL	5.6 percent or less
<b>*IFG stands for impaired fasting glucose.</b>			
<b>**IGT stands for impaired glucose tolerance.</b>			

# How Insulin Works

Insulin acts like a key, opening cells so glucose can enter to provide a source of energy. Insulin is like the key to a car. A car needs fuel to run, but the key provides the spark that releases the fuel. In your body, insulin is used to “spark” the use of glucose as fuel in your cells.



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Insulin helps your body use glucose for energy.

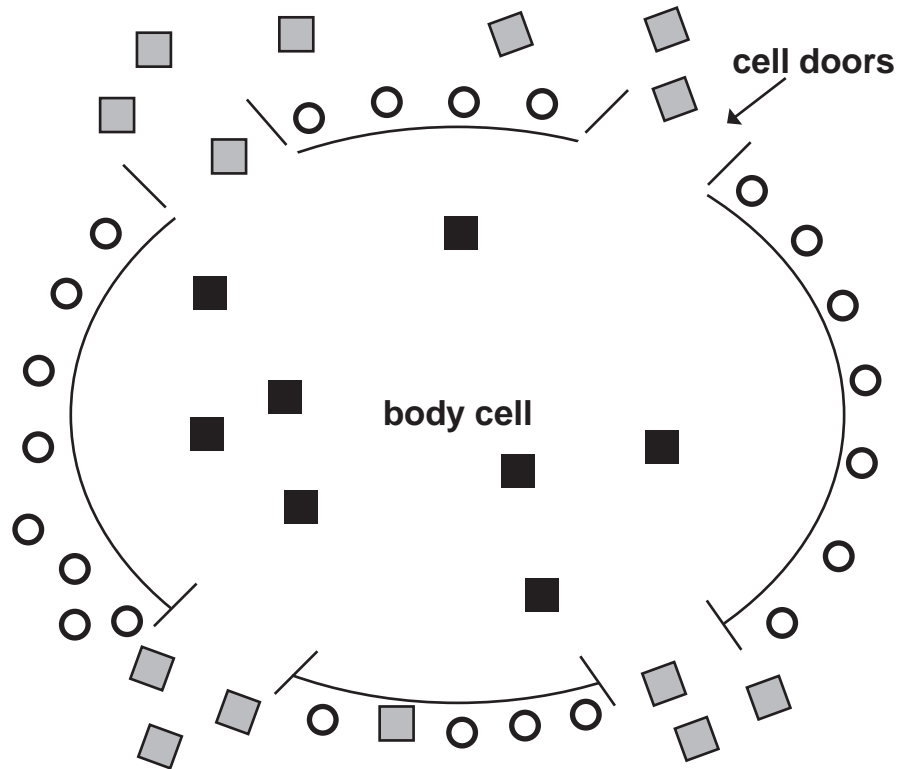
## Normal Body Cell

Cell doors are open to allow insulin to bring glucose into the cells to use for energy.

○ insulin in the blood

◻ glucose in the blood

■ glucose in the body cell



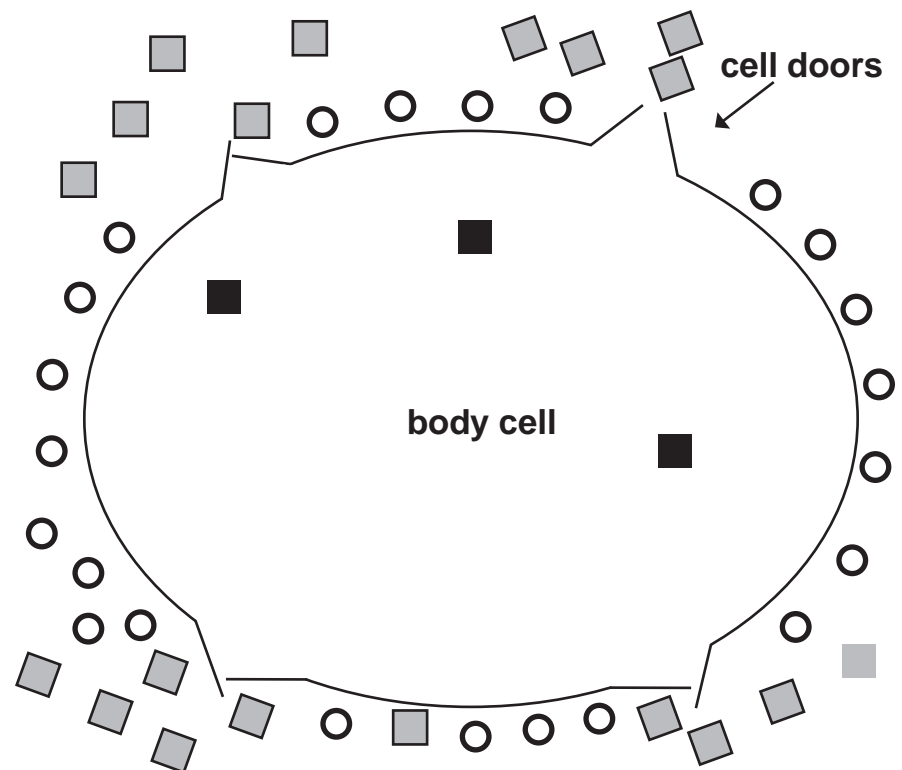
## Insulin Resistant Body Cell

Cell doors are shut. The glucose cannot get into the cells so they stay in the bloodstream.

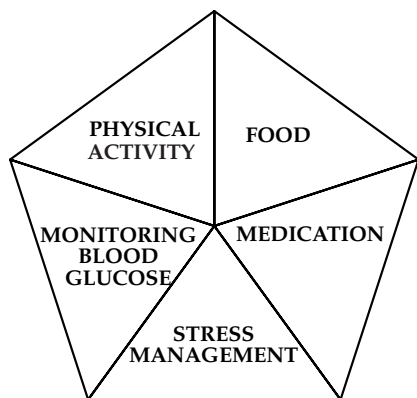
○ insulin in the blood

◻ glucose in the blood

■ glucose in the body cell



# Tools for Managing Diabetes



Food, physical activity, stress management, medicine and monitoring blood glucose can help manage your diabetes.

## Food

Your body needs food to make glucose that is used for energy. Eating the right foods during the day will help keep your blood glucose in control. Remember that food makes blood glucose go up, so controlling how much, what kind and when you eat can make a difference.

Here are some tips:

- Eat 3 well-balanced meals a day.
- If meals are more than 4 to 5 hours apart, eat a small snack.
- Eat a bedtime snack so your body has enough energy while you sleep.
- Do not skip meals or snacks. Your body will make up for the lack of glucose by “asking” the liver to produce extra glucose. This can make controlling your blood glucose even harder.
- Ask for help if you have questions or need advice about your food choices.

## Physical activity

Physical activity is important for everyone, especially if you have diabetes. Being more physically active will help your body use insulin more efficiently.

Check with your health care provider before starting an exercise program.

- Start slowly to avoid injury.
- Choose activities you will enjoy.
- Be physically active every day.

## Important

Controlling blood glucose is how you avoid the problems that go along with diabetes. Make sure you and your health care team use the tools in this book to help you.

## Stress management

Stress increases blood glucose and can cause problems with your blood glucose control.

- Think about what causes stress for you.
- Try healthy ways to help you cope with stress.
- Ask for help if you need it.

## Medicines

There are many medicines that help control blood glucose. Your health care provider will choose the best medicines for you if you need them. It is common for your medicine needs to change.

## Monitoring blood glucose

Regular testing will tell you how your food, physical activity and medicines are working. You can use the diabetes management plan in this book for following your blood glucose testing schedule, and recording your medicine, food and exercise recommendations.

## Making Changes

You may be excited to make changes in your life. You may also feel upset or have other emotions. It's important to start slowly.

Changing habits can be hard. The changes you make will need to be small and realistic to help you be successful. Asking for support from others may help you change your habits.

### Tip

Your diabetes educator can help you make a plan.





# Chapter 2:

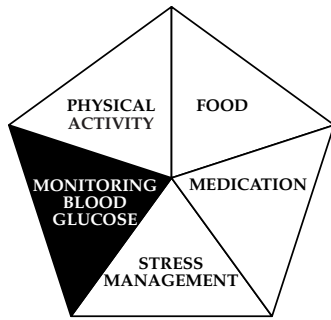
## Monitoring Blood Glucose

### **In This Chapter:**

- When to Test
- American Diabetes Association Recommended Blood Glucose Levels
- Testing Schedule
- The Importance of Regular A1c Tests



# Chapter 2: Monitoring Blood Glucose



Testing your blood glucose levels will help you manage your diabetes. Regular testing will tell you how your food, physical activity and medicines are working. Regular testing will also let you and your health care provider know when changes should be made.

Easy-to-use equipment is available for testing your blood glucose levels. Talk with your diabetes educator about equipment that would be best for you.

## When to Test

How often you check your blood glucose is affected by:

- the type of diabetes you have
- how much your blood glucose changes during the day
- your diabetes medicine: type, amount and how often you take it
- food
- stress and illness
- physical activity.

## American Diabetes Association Recommended Blood Glucose Levels\*

- before meals: between 80 to 130 mg/dL
- 2 hours after meals: less than 160 to 180 mg/dL
- at bedtime: 100 to 140 mg/dL

\*Talk with your health care provider or diabetes educator about safe levels for you.

### Good blood glucose levels for you

- before meals \_\_\_\_\_
- after meals (2 hours) \_\_\_\_\_
- before bedtime \_\_\_\_\_

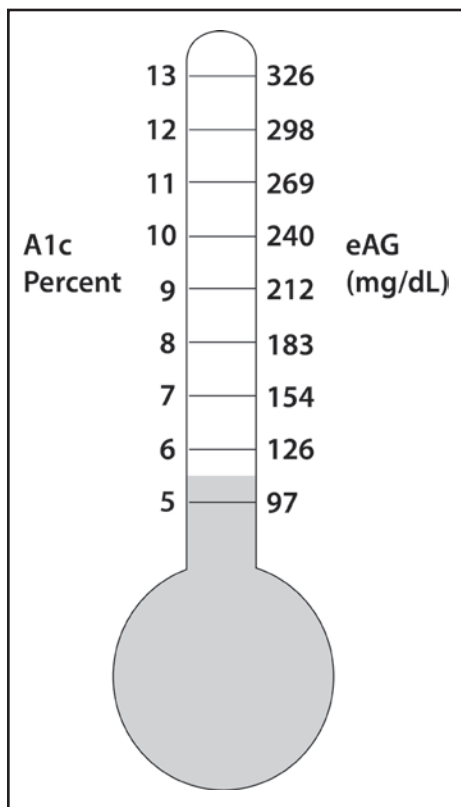
# Testing Schedule

Check your blood glucose at the times marked below. Write the number and the time of your test in your blood glucose record book. **Important:** Bring your blood glucose record book to all of your appointments with your health care provider and diabetes educators. Ask your diabetes educator for a record book.

Check your blood glucose:

- before breakfast       after breakfast
- before lunch           after lunch
- before dinner          after dinner
- at bedtime              other \_\_\_\_\_

## The Importance of Regular A1c Tests



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**This drawing compares A1c results with eAG results, which are reported as mg/dL.**

The A1c is a blood test that reflects average blood glucose level over the past 2 or 3 months. Research has shown that eye, kidney and nerve damage from diabetes is directly related to the A1c level. You do not need to fast for the A1c test.

Fingerstick blood glucose testing is valuable for hour-to-hour or day-to-day management of your diabetes. But an A1c level gives an overall picture of your diabetes control and your risk of problems (complications). You need both types of testing to manage your diabetes well.

Your health care provider may give your A1c results in estimated average glucose (eAG) instead of a percentage. eAG is measured in mg/dL, which is what you are used to seeing on your meter. Use the drawing at left to understand your A1c test results.

The Allina Health diabetes program recommends:

- an A1c test at least twice a year, more often if test results are higher than your test goal
- a test goal of less than 7 percent.

## Your A1c Test Results

The normal range for this test at your lab is:

\_\_\_\_\_ (usually 4 to 5.6 percent).

The recommended range for your A1c is:

\_\_\_\_\_

Your most recent A1c result was:

\_\_\_\_\_

## How the test works

Glucose in your bloodstream attaches to hemoglobin in red blood cells and stays there. Red blood cells live for about 120 days. The higher your blood glucose is, the more glucose is attached to hemoglobin. The A1c test measures the percentage of hemoglobin with glucose attached (called altered hemoglobin).

## High A1c test results

If your A1c test results are high, you and your health care provider need to work together to lower your glucose level. Your provider may recommend treatment plan changes such as:

- different medicines
- a different food plan
- more physical activity
- a plan to manage stress
- more frequent health care visits.

Lowering your A1c by even 1 percent can reduce your risk of diabetes problems (complications) by 30 percent.



# Chapter 3:

## Food — Eating Healthy

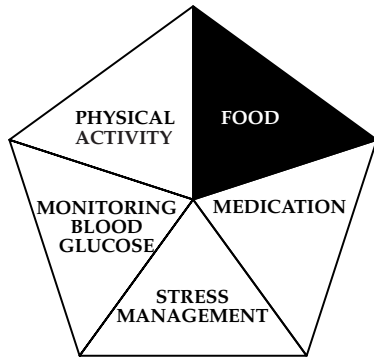
### In This Chapter:

- Understanding How Food Affects Your Body
- Free Foods
- Vegetables
- Heart-healthy Eating With Diabetes:  
Making Good Protein and Fat Choices
- Fats
- Meat and Meat Substitutes
- Understanding Portion Sizes
- What Should You Put on Your Plate?
- What Should You Drink?
- Using Sweeteners
- How to Read Food Labels
- Sample Meals and Snacks
- Sample Meal Plans
- Meal Plan: What to Remember
- Dining Out





# Chapter 3: Food — Eating Healthy



You can make a difference in your blood glucose control through your food choices. When you have diabetes, your body may have problems using the energy from the food you eat. This can cause high blood glucose levels. Balancing what, when and how much you eat will help manage your blood glucose levels.

## Understanding How Food Affects Your Body

### Tip

Weight loss ideas are found in Chapter 6.

### Tip

Choose carbohydrate foods that are high in fiber such as whole grains, fruits, vegetables and legumes (navy, kidney and black beans, lentils). Fiber:

- slows digestion to make you feel fuller longer
- slows the rate carbohydrates are absorbed into your bloodstream
- helps reduce cholesterol by binding to the cholesterol in your digestive tract and getting rid of it.

Carbohydrates turn into glucose, affecting your blood glucose levels. There are no good or bad foods. Eating a variety of foods can improve your health and keep meals interesting.

The foods you eat fall into three main groups:

- **Protein:** Protein is important for healing, building muscle, strengthening your immune system, helping your body recover from stress and more!
- **Fat:** Fat is a major source of energy for the body. It also helps the body absorb important vitamins.
- **Carbohydrate:** Carbohydrates give your body energy.

All carbohydrate foods turn into glucose. Carbohydrate foods are starches (breads, crackers, cereals, rice, pasta), fruit and fruit juice, milk and yogurt, starchy vegetables (potatoes, dried beans, corn, sweet potatoes, winter squash) and sweets.

Do not avoid carbohydrate foods. They should make up 50 to 60 percent of your food plan.

Carbohydrate counting is a way to help you manage the amount of carbohydrate you eat.

## Important

It is not healthy to leave out carbohydrate foods while you try to lose weight and control your blood glucose level.

A carbohydrate choice is a serving that contains about 15 grams of carbohydrate. For most people with diabetes, a healthful meal plan has 3 to 5 (45 to 75 grams) carbohydrate choices at a meal and 0 to 2 (0 to 30 grams) carbohydrate choices for snacks.

### Important:

- According to the American Diabetes Association, it is best to consume about the same amount of carbohydrate choices at each of your meals. For example, if you have 4 carbohydrate choices at breakfast, try to have 4 carbohydrate choices at lunch and 4 carbohydrate choices at dinner.
- Your health care team can help you determine the right amount of carbohydrates for you to have at each snack. This will depend on:
  - the type of diabetes you have
  - how often you have low blood glucose
  - your body weight
  - your physical activity level.
- Eat your meals and snacks every 4 to 5 hours to help even out your blood glucose level. Do not skip meals. If you do, your body may make extra glucose to compensate. This can make controlling your blood glucose even harder.

### Dietary Carbohydrate Guidelines for Adults

	Weight Loss	Maintain Weight
Men	45 to 60 grams (3 to 4 carb choices) per meal	60 to 75 grams (4 to 5 carb choices) per meal
Women	30 to 45 grams (2 to 3 carb choices) per meal	45 to 60 grams (3 to 4 carb choices) per meal

## Breads and Flours

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Bagel: large	1	60 to 75	4 to 5
Bagel: mini	1	15	1
Bread: pumpernickel, rye, white, whole grain	1 slice	15	1
Bread: reduced-calorie	2 slices	15	1
Bread: sticks (soft), 6 to 7 inches	1 stick	30	2
Dinner roll: small	1	15	1
English muffin	one-half	15	1
Hoagie roll	1	75	5
Hot dog or hamburger bun	one-half	15	1
Muffin: extra large	1	50 to 75	4 to 5
Muffin: medium	1	24	1 ½
Pancake: 4 inches	1	15	1
Pita: 6 inches	1	30	2
Tortilla: flour, 6 inches	1	15	1
Waffle: frozen	1	15	1

## Cereals, Grains and Pasta

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Cereal: cooked and unsweetened	½ cup	15	1
Cereal: dry	½ to 1 ⅓ cup	20 to 45	1 to 3
Couscous: cooked	½ cup	15 to 20	1
Pasta: cooked (macaroni, noodles, spaghetti)	⅓ cup	15	1
Rice: brown, cooked	⅓ cup	15	1
Rice: white, cooked	⅓ cup	15	1
Rice: wild, cooked	½ cup	15	1

## Starchy Vegetables, Beans and Lentils

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Beans: baked	½ cup	30	2
Beans: black, garbanzo, kidney	½ cup	15 to 20	1
Corn	½ cup	15	1
Corn on the cob: 5 to 6 inches	1	15 to 20	1
Edamame	½ cup	13	1
Green peas	½ cup	15	1
Lentils	½ cup	20	1
Potatoes: baked	1 medium (7 to 8 ounces)	30 to 45	2 to 3
Potatoes: mashed	½ cup	15	1
Soybeans	1 cup	56	3
Squash: acorn	¼ medium (1 cup)	15	1
Squash: butternut	¼ medium (1 cup)	30	2
Yam (sweet potato)	½ cup	15	1

## Fruits and Fruit Juices

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Apple: small	1	15	1
Apple, grapefruit, orange or pineapple juice	½ cup	15	1
Banana: large	1	30	2
Berries: blackberries, blueberries, raspberries, strawberries	1 cup whole	15	1
Canned fruit: in juice	½ cup	15	1
Cherries	15	15	1
Clementines	2	15	1
Cranberry juice cocktail, grape, prune	⅓ cup	15	1
Fruit juice blends (100 percent juice)	⅓ cup	15	1
Fruit juice: reduced calorie	1 cup	10 to 15	1
Grapefruit: medium	one-half	15	1
Grapes	15	15	1
Kiwi: large	1	15	1
Mango	½ cup	15	1
Melon	1 cup cubes	15	1
Nectarine: medium	1	15	1
Orange: medium	1	15	1
Peach: medium	1	15	1
Pear: small	1	15	1
Pineapple	1 cup	20	1
Plums: small	2	15	1
Raisins	2 tablespoons	15	1
Tomato juice	1 cup	10	1

## Milk, Yogurt, and Non-dairy Milk and Yogurt

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Milk: buttermilk, fat-free, whole, 1%, 2%	1 cup	15	1
Milk: chocolate	1 cup	30	2
Milk (nondairy): rice milk	1 cup	23	1 ½
Milk (nondairy): soy milk	1 cup	9	½
Yogurt (nondairy): original or unflavored almond, cashew, coconut, soy	1 cup	25	1 ½
Yogurt: plain or artificially sweetened	¾ cup	15	1
Yogurt: sweetened with fruit	¾ cup	30	2

## Snacks and Sweets

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Angel food cake: unfrosted, 1-inch slice	1	15	1
Brownie: unfrosted, 2-by-2-inch	1	15	1
Cake: unfrosted, 2-by-2-inch	1	15	1
Cheesecake	1/12 of 9-inch	35 to 45	2 ½ to 3
Chips: potato or tortilla (regular)	10 to 15	15 to 20	1
Cookie: 3-inch	1	10 to 15	1
Cornbread	2-inch square	23 to 34	1 ½ to 2
Crackers: saltine	6	15	1
Crackers: snack	6 to 7	15	1

## Snacks and Sweets

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Cupcake: frosted, small	1	30	2
Frozen yogurt	½ cup	25	1 ½
Doughnut: cake	1	25	1 ½
Doughnut: glazed	1	35	2
Doughnut holes	2	15	1
Gelatin: regular	½ cup	15	1
Graham crackers	3 squares	15	1
Honey: regular	1 tablespoon	15	1
Ice cream cone: cake, sugar, wafer	1	3 to 9	0 to ½
Ice cream: light, low-fat, regular	½ cup	15	1
Jam and jelly: regular	1 tablespoon	15	1
Pie: one (single) crust	⅛ of 9-inch	25 to 45	1 ½ to 3
Pie: two (double) crusts	⅛ of 9-inch	45	3
Popcorn	3 cups	15	1
Pretzels: mini twists	20	25	1 ½
Pudding: regular	½ cup	30	2
Pudding: sugar-free	½ cup	15	1
Sherbet, sorbet, gelato	½ cup	30	2
Sugar: brown packed or white	1 tablespoon	15	1
Syrup: light	¼ cup	25	1 ½
Syrup: regular	¼ cup	52 to 60	3 ½ to 4
Syrup: sugar-free	¼ cup	15	1
Tater tots	5	15	1

## Convenience and Combination Foods

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Casserole (hot dish)	½ cup	15	1
Chili	1 cup	30	2
Coleslaw	½ cup	15	1
Hash browns	½ cup	16 to 20	1
Pasta or potato salad	½ cup	15 to 25	1 to 1 ½
Potatoes: french fries (frozen)	10 to 15	15	1
Soup: broth type	1 cup	15	1
Soup: cream type	1 cup	15 to 30	1 to 2
Stuffing	½ cup	10 to 15	1
Sub sandwich	6-inch	45	3

## Convenience and Combination Foods: Ethnic

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
<b>Asian</b>			
Chinese egg noodles	⅓ cup	15	1
Chow mein	1 cup	15 to 20	1
Chow mein noodles	½ cup	15	1
Egg roll: 5-inch	1	23	1 ½
Fried rice	⅓ cup	15	1
Lo mein (meat, noodles, vegetables)	1 cup	30 to 50	2 to 3
Stir-fry (meat, no rice)	1 cup	10	1
Sweet and sour: chicken or pork (no noodles, no rice)	1 cup	45	3
Sweet and sour sauce	1 tablespoon	15	1



## Convenience and Combination Foods: Ethnic

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
<b>Italian</b>			
Lasagna	4-by-4-inch piece	45 to 60	3 to 4
Pizza: thick crust	1/8 large	30 to 45	2 to 3
Pizza: thin crust	1/8 large	25 to 35	1 1/2 to 2
Ravioli (no sauce)	9 to 11	45 to 60	3 to 4
Tomato sauce	1/2 cup	15	1
<b>Mexican</b>			
Burrito: 6- to 8-inch	1	45 to 60	3 to 4
Enchilada: 8-inch	1	50	3
Fajita: 6- to 8-inch	1	20	1
Quesadilla: 8- to 10-inches	1	30 to 40	2 to 3
Refried beans	1/2 cup	20	1
Taco: corn shell, 6 inches	2	15	1
Tortilla: flour, 6 inches	1	15	1

## Free Foods

A free food is any food or beverage that contains fewer than 20 calories or 5 grams of carbohydrate per serving. Foods with a serving size listed below should be limited to no more than 3 servings at one time.

Carbohydrate-free beverages (club soda, calorie-free flavored water, diet soft drinks, coffee, and hot or unsweetened teas) will not affect blood glucose.

Food	Serving Size	Carbohydrate Grams	Carbohydrate Choice
Artificial sweeteners	1 teaspoon	0 to 1	0
Barbeque sauce	2 teaspoons	4	0
Cocktail sauce	2 tablespoons	3	0
Creamer	2 teaspoons	0	0
Dill pickles	4 slices	1	0
Gravy	¼ cup	3	0
Herbs and spices	1 teaspoon	1	0
Ketchup	1 tablespoon	4	0
Lemon and lime juice	1 tablespoon	2	0
Mustard	2 tablespoons	3	0
Non-dairy creamer (original or unflavored): almond, cashew, coconut, soy	2 teaspoons	0	0
Non-dairy creamer (unsweetened flavored): almond, cashew, coconut, soy	2 teaspoons	4	0
Olives	4 to 6	1	0
Salsa	2 tablespoons	2	0
Soy sauce	1 tablespoon	1	0
Steak sauce	1 tablespoon	3 to 5	0

<b>Food</b>	<b>Serving Size</b>	<b>Carbohydrate Grams</b>	<b>Carbohydrate Choice</b>
Sugar-free ice pops	1	3	0
Sugar-free gelatin	½ cup	1	0
Sugar-free jam or jelly	1 tablespoon	5	0
Sugar-free syrup	2 tablespoons	5	0

# Vegetables

One serving of the following vegetables (½ cup cooked or 1 cup raw) has about 5 grams of carbohydrate. Three servings of vegetables at a meal or snack equals 1 carbohydrate choice.

- alfalfa sprouts
- artichokes
- asparagus
- beans  
(green, Italian, waxed)
- bean sprouts
- broccoli
- Brussels sprouts
- cabbage
- cauliflower
- celery
- collard greens
- cucumber
- eggplant
- endive
- greens
- lettuce
- mushrooms
- mustard greens
- peppers
- radishes
- spinach
- squash: summer
- Swiss chard
- zucchini

One serving of the following vegetables (½ cup cooked or 1 cup raw) has more than 5 grams of carbohydrate but not enough to be considered a starchy vegetable.

- beets
- carrots
- jicama
- kohlrabi
- leeks
- okra
- onions
- parsnips
- pea pods
- pumpkin
- rhubarb
- rutabaga
- squash: spaghetti
- tomatoes
- turnips

# Heart-healthy Eating With Diabetes: Making Good Protein and Fat Choices

People who have diabetes are more at risk for heart disease. That means the type and amount of protein and fat you eat can affect your heart health.

Poultry, meat and fish are high in protein which help your muscles stay healthy. However, if you eat too much of these, you add extra calories and fat. Most adults need about **6 to 8 ounces of meat** (weight after cooking) each day. Think of this as one small and one medium serving each day. Three ounces look like a deck of playing cards.

You need to eat fat for good health. Fat provides energy and important nutrients. It is important to choose foods that have healthful fats. (See the list below.)

Unhealthful fats can clog blood vessels which can cause a heart attack or stroke. A general rule is to use 1 to 2 teaspoons of fat at each meal.

Types of Fats in Food			
Monounsaturated (most healthful)	Polyunsaturated (healthful)	Saturated (not healthful)	Hydrogenated and partially hydrogenated trans fats (not healthful)
<ul style="list-style-type: none"> <li>■ avocados</li> <li>■ most nuts</li> <li>■ olive, avocado and peanut oil</li> <li>■ peanut butter (natural or trans fat-free)</li> <li>■ tub margarine (trans fat-free with liquid oil as first ingredient)</li> </ul>	<ul style="list-style-type: none"> <li>■ fatty fish (tuna, salmon, trout)</li> <li>■ sunflower, corn and soybean oils</li> <li>■ walnuts</li> </ul>	<ul style="list-style-type: none"> <li>■ coconut and palm oils</li> <li>■ fatty meats</li> <li>■ high-fat milk and cheese</li> <li>■ lard</li> <li>■ butter</li> </ul>	<ul style="list-style-type: none"> <li>■ crackers, cookies, cakes, doughnuts, pastries</li> <li>■ fried fast food and chips</li> <li>■ many pre-packaged or prepared foods</li> <li>■ shortening and stick margarine</li> </ul>

# Fats

Fat contains more than two times the calories as the same amount of protein or carbohydrate. One serving size equals 5 grams of fat or less.

## Heart-healthy Fats (Monounsaturated and Polyunsaturated)

Fat	Serving Size
Avocado	2 tablespoons or 1/8 medium
Margarine: reduced-fat tub	1 tablespoon
Margarine: trans fat-free, tub or squeeze	1 teaspoon
Mayonnaise (made with canola oil)	1 tablespoon
Mayonnaise (made with canola oil): light/ reduced fat	1 tablespoon
Nuts: ■ almonds, cashews, mixed nuts ■ peanuts ■ pecans, walnuts	8 10 4 halves
Oil (most kinds)	1 teaspoon
Olives, large (black or green)	10
Peanut butter (natural or trans fat-free) or nut butter	1 teaspoon
Salad dressing (Italian, vinaigrette, Russian)	1 tablespoon
Salad dressing: reduced fat, light	2 tablespoons
Sunflower seeds	1 tablespoon

## Less Heart-healthy Fats (Saturated Fat)

Fat	Serving Size
Alfredo sauce	2 tablespoons
Bacon	1 slice
Butter	1 teaspoon
Cream cheese: light or reduced fat	2 tablespoons
Cream cheese: regular	1 tablespoon
Cream: regular or light	2 tablespoons
Gravy	2 tablespoons
Shortening	1 teaspoon
Sour cream: light or reduced fat	4 tablespoons
Sour cream: regular	2 tablespoons
Tartar sauce	1 tablespoon

## Dietary Fat Guidelines for Adults

	Weight Loss	Maintain Weight
Men	40 to 55 grams a day	65 to 75 grams a day
Women	30 to 45 grams a day	55 to 65 grams a day

### Tips to decrease saturated fat

- Buy lean cuts of meat such as round or loin.
- Trim all fat from meat before cooking.
- Remove skin and fat from chicken and turkey before cooking.
- Bake, roast, slow cook, broil, braise or grill meats instead of frying.
- Choose white meat more often than dark meat.
- Drain off fat after cooking and blot with a paper towel.
- Use a nonstick surface to pan broil foods.
- Do not eat gravies made with fatty drippings.
- Microwave, steam or par boil vegetables in a small amount of water and season with only a small amount of fat or with spices.
- Use low-fat or fat-free margarine, mayonnaise, salad dressings, cream cheese and sour cream more often than regular versions.



## Meat and Meat Substitutes


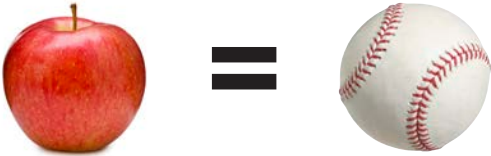




Meat and meat substitutes have protein and some fat but no carbohydrates. For most people, the recommended amount of protein is between 6 to 8 ounces a day. (A piece of meat that looks like the size of a deck of cards is equal to 3 ounces.)

In the following chart, each serving size equals about 7 grams of protein.

Meat	Serving Size
Beef or veal	1 ounce
Canned fish	¼ cup
Cheese	1 ounce
Cottage cheese	¼ cup
Egg: medium	1
Egg substitute	¼ cup
Fish and seafood	1 ounce
Game	1 ounce
Hot dogs	1 ounce
Lamb	1 ounce
Lunch meat (choose lean cuts)	1 ounce
Peanut butter	1 tablespoon
Pork	1 ounce
Poultry (chicken, turkey)	1 ounce
Soy or veggie burgers	1 ounce
Tempeh	¼ cup
Tofu	⅓ cup

# Understanding Portion Sizes

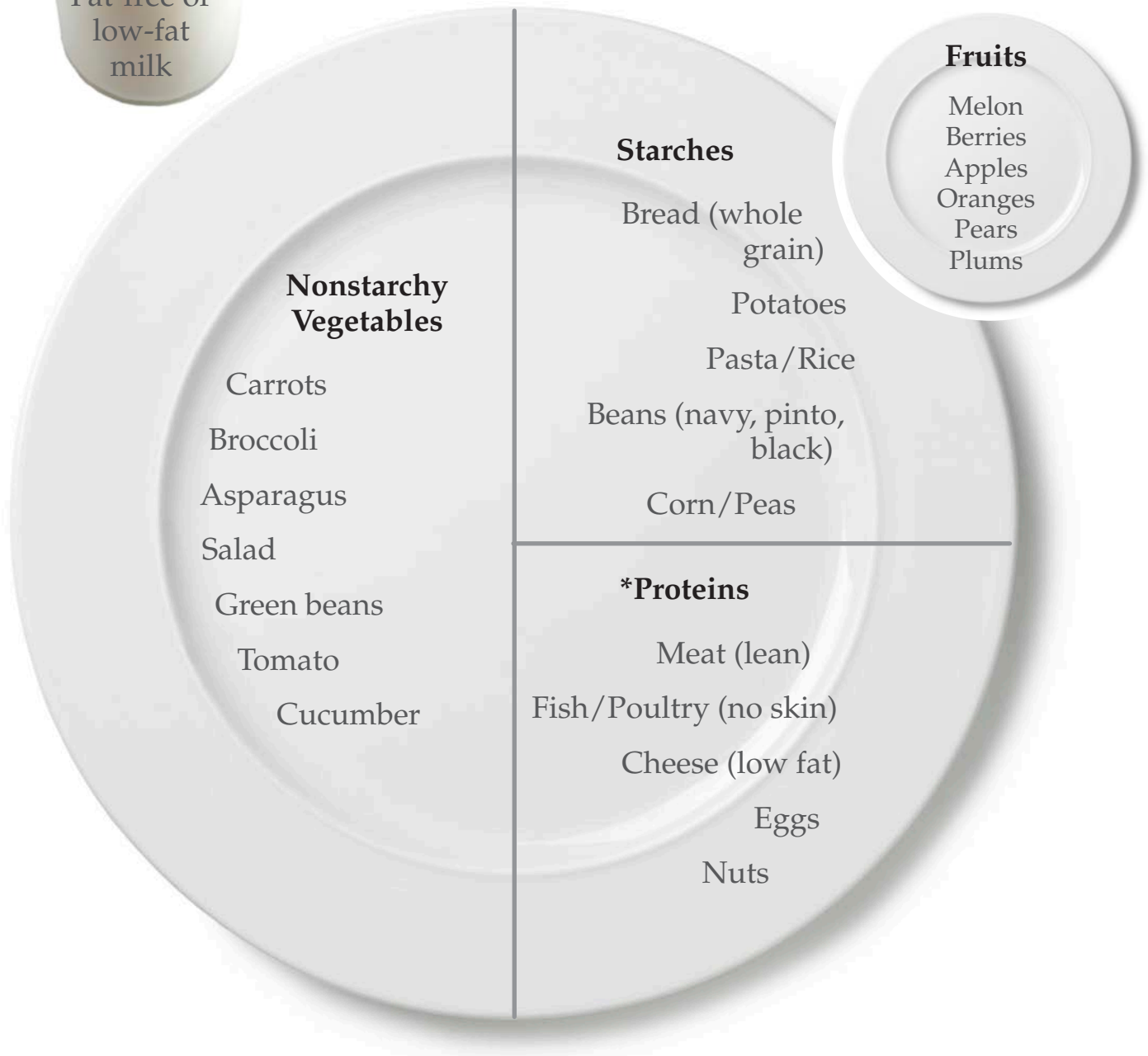
When a food scale or measuring cups aren't handy, you can still estimate your portion. Remember:

<p>Three ounces of meat is about the size and thickness of a deck of playing cards.</p>	
<p>One medium apple or 1 cup of cooked vegetables is about the size of a baseball.</p>	
<p>One ounce of cheese is about the size of 4 stacked dice.</p>	
<p>One-half cup of ice cream or 1/2 cup of cooked pasta is about the size of an ice cream scoop.</p>	
<p>One slice of bread or one 6-inch tortilla is about the size of a DVD.</p>	
<p>One teaspoon of butter is about the size of a poker chip.</p>	

# What Should You Put on Your Plate?



When you are planning your meals, try to think about what your plate should look like. Use the example below to help you think about how your plate should look.



\*For people following a vegetarian or vegan diet, beans are a main source of protein. (One-fourth cup of cooked beans or peas counts as 1 ounce of protein.)

**For breakfast:**

- half of your plate should be starches
- the other half should be split between protein and fruit.

**For lunch and dinner:**

- half of your plate should be full of nonstarchy vegetables
- the other half should be split between protein and starches
- a small dish of fruit, if you want.

## What Should You Drink?

### Tip

Make sure to drink plenty of water. You can add freshly squeezed lemon or lime for an extra boost of flavor!

Sugary beverages and juice can add empty calories and carbohydrates. Limit or do not drink beverages that contain natural or added sugars such as iced tea, lemonade, soda and any beverage that is labeled as “sweetened.” Instead choose:

- 1 cup fat-free or 1 percent (%) milk
- 1 cup coffee or tea (no sugar)
- 8 ounces diet soda
- water.

## Using Sweeteners

### Did You Know?

Foods that are labeled “sugar-free” often have sugar alcohols such as mannitol, sorbitol, xylitol, lactitol, isomalt and maltitol. **Sugar-free does not mean it is carbohydrate-free.**

You can find sugar alcohols in sugar-free foods such as chocolate, cookies, hard candies or some ice creams.

There are two types of sweeteners:

- with calories:  
If you use granulated sugar, brown sugar, honey or syrup, use in moderation. One tablespoon of this sweetener has 15 grams of carbohydrate.
- without calories (sugar substitutes):  
Aspartame (Equal<sup>®</sup>, Nutrasweet<sup>®</sup>), saccharin (Sweet’N Low<sup>®</sup>), sucralose (Splenda<sup>®</sup>) or stevia (Truvia<sup>®</sup>, Pure Via<sup>™</sup>) adds a few to no calories or carbohydrates.

## How to Read Food Labels

<b>Nutrition Facts</b>	
8 servings per container	
<b>Serving size</b>	<b>2/3 cup (55g)</b>
<b>Amount per serving</b>	
<b>Calories</b>	<b>230</b>
	<b>% Daily Value*</b>
<b>Total Fat</b> 8g	<b>10%</b>
Saturated Fat 1g	<b>5%</b>
<i>Trans</i> Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 160mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>13%</b>
Dietary Fiber 4g	<b>14%</b>
Total Sugars 12g	
Includes 10g Added Sugars	<b>20%</b>
<b>Protein</b> 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

\*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

**Source of label: U.S. Food and Drug Administration**

Use the nutrition label at left to understand the following.

- **Serving size:** The serving size lists the amount of food in one serving and the number of servings in one package.
- **Calories:** Calories are a measure of energy released by a food or beverage.
- **Total fat:** Total fat includes all types of fat (saturated, unsaturated, trans). Fat is a major source of energy for the body. It also helps the body absorb important vitamins.
- **Saturated fat:** Saturated fat raises LDL (“bad”) cholesterol. Reduce saturated fats to help protect your heart.
- **Trans fat:** Trans fats may increase LDL (“bad”) cholesterol and decrease HDL (“good”) cholesterol, which increases your risk for heart disease. Eat as little trans fats as possible. Avoid foods that contain “partially hydrogenated” oils.
- **Cholesterol:** Foods from animals (meat, fish, eggs, cheese, butter) have cholesterol. Your body produces enough cholesterol for important functions such as digesting fats, making hormones and building cell walls.
- **Sodium:** Your body needs sodium to help its organs function well and fluids to be in balance. Sodium (salt) is typically used to add flavor and increase the amount of time foods stay fresh. A healthy amount of sodium to consume each day is 2,300 milligrams (mg) or less.

- **Total carbohydrate:** Carbohydrates give your body energy. However, too many can raise your blood glucose. See page 30 for guidelines.

- **Fiber:** Fiber is the part of food that cannot be broken down during digestion. Because it moves through your body “undigested,” it plays an important role in keeping your digestive system moving and functioning well.

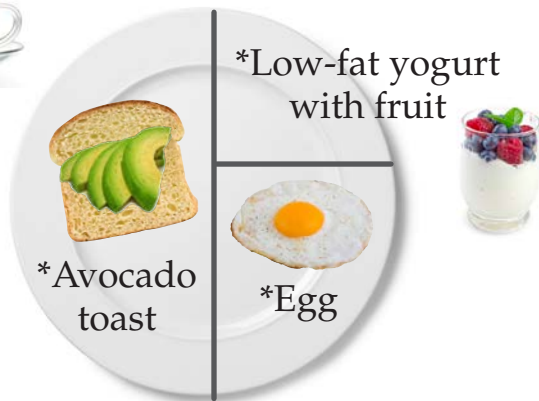
- **Total sugars:** This is the total amount of natural sugars such as lactose (sugar in milk) or fructose (sugar in fruit) and added sugars.
- **Added sugars:** Added sugars are sugars added during the making (processing) of foods. Examples include sugar, honey, pure cane sugar, cane sugar, corn syrup, molasses, brown sugar, agave syrup, maple syrup — and more! Studies have shown consuming more than 10 percent of your total daily calories from added sugar makes it less likely that you will meet your nutrient needs (while staying within your calorie goal). Remember to read the ingredients list to look for sources of sugar!
- **Protein:** Protein is important for healing, building muscle, strengthening your immune system, helping your body recover from stress and more!
- **Percent (%) daily value:** Your body needs more of some nutrients (calcium, dietary fiber, potassium) and less of others (total fat, saturated fat, sodium, added sugars) to function at its best. The % daily value will help you know how much of that nutrient your body needs. In general for each nutrient:
  - 5% daily value or less is considered low
  - 20% daily value or more is considered high.

Grams of carbohydrate	Number of carbohydrate choices
0 to 5	0
6 to 10	½
11 to 20	1
21 to 25	1 ½
26 to 35	2
36 to 40	2 ½
41 to 50	3
51 to 55	3 ½
56 to 65	4
66 to 70	4 ½
71 to 80	5

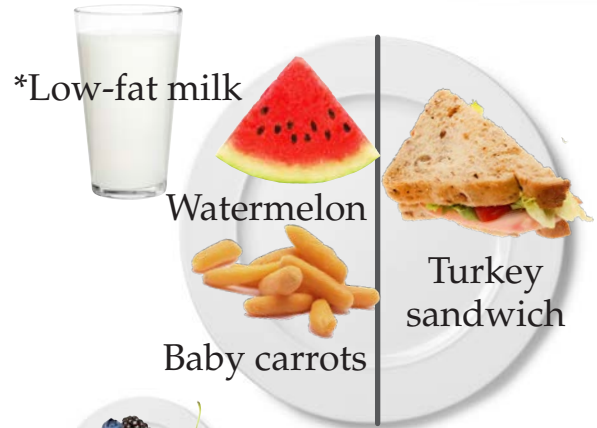
# Sample Meals and Snacks

## For meals:

### At breakfast:



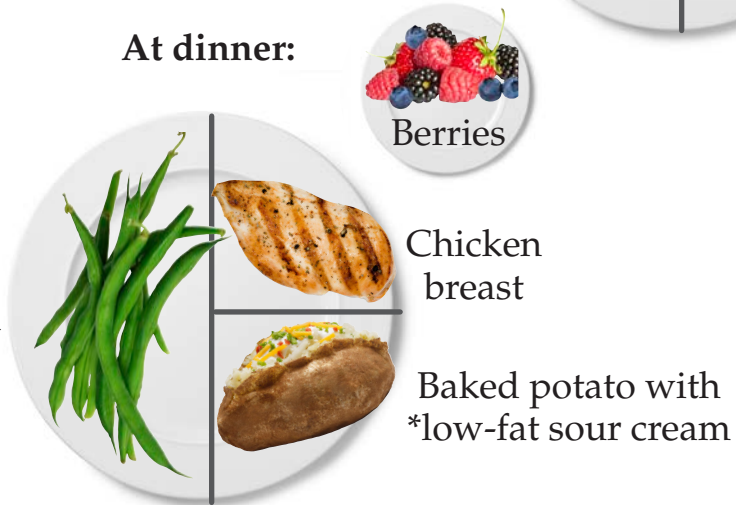
### At lunch:



### At dinner:



Green beans



## Important

Make sure to include healthful fats with each meal and snack. Examples of foods with healthful fats include:

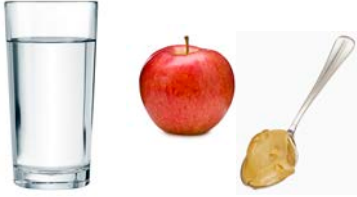
- olive oil
- peanut butter (natural)
- avocado
- dairy products (low-fat milk or yogurt).

Foods that contain healthful fats are noted with a star (\*) on pages 52 to 54.



## For snacks:

Apple with \*peanut  
butter (natural)



Bran flakes with \*low-fat milk



\*Low-fat yogurt  
with fruit























\*Nuts with dried fruit



Vegetables with \*hummus



Choose one food from each column to build a complete meal. Remember to include healthful fats!

Nonstarchy vegetables	Protein	Grains or starchy vegetable	Fruit	Beverage
 <p><b>Brussels sprouts</b> 1 cup raw or ½ cup cooked</p>	 <p><b>Chicken breast</b> 3 ounces cooked</p>	 <p><b>Brown rice</b> ⅓ cup cooked</p>	 <p><b>Banana</b> 1 small</p>	 <p><b>*Low-fat milk</b> 1 cup</p>
 <p><b>Bell peppers</b> 1 cup raw or ½ cup cooked</p>	 <p><b>*Fish</b> 3 ounces</p>	 <p><b>Sweet potato</b> 3 ounces or ½ cup cooked</p>	 <p><b>Grapes</b> 15 grapes</p>	 <p><b>Unsweetened tea</b> No limit</p>
 <p><b>Broccoli</b> 1 cup raw or ½ cup cooked</p>	 <p><b>*Egg</b> 1 to 2 medium</p>	 <p><b>Beans and legumes</b> ½ cup cooked</p>	 <p><b>Oranges</b> 1 small</p>	 <p><b>Sparkling water</b> No limit</p>
 <p><b>Green beans</b> 1 cup raw or ½ cup cooked</p>	 <p><b>*Tofu</b> 3 ounces cooked</p>	 <p><b>Peas</b> ½ cup cooked</p>	 <p><b>Apple</b> 1 small</p>	 <p><b>Black coffee</b> No limit</p>

**\*Sources of healthful fats.**

# Sample Meal Plans

## Breakfast examples with 4 carbohydrate choices

- 1 slice toast = 1 carbohydrate choice
- ½ cup hot cereal = 1 carbohydrate choice
- 1 tablespoon peanut butter
- ½ medium banana = 1 carbohydrate choice
- 1 cup (8 ounces) fat-free milk = 1 carbohydrate choice
- coffee or tea

-or-

- 1 (4-inch) pancake = 1 carbohydrate choice
- 1 egg
- 2 tablespoons of light syrup = 1 carbohydrate choice
- 1 cup melon or berries = 1 carbohydrate choice
- 1 cup fat-free milk = 1 carbohydrate choice
- 1 teaspoon margarine
- coffee or tea

-or-

- 1 ½ cups dry, unsweetened cereal with 1 cup fat-free milk = 3 carbohydrate choices
- ½ cup orange juice = 1 carbohydrate choice
- coffee or tea

## Lunch examples with 4 carbohydrate choices

- 1 hamburger bun = 2 carbohydrate choices
- 1 small hamburger
- 1 teaspoon mayonnaise
- green salad
- 1 tablespoons salad dressing
- 1 apple = 1 carbohydrate choice
- 1 cup fat-free milk = 1 carbohydrate choice

-or-

- 1 cup vegetable soup (broth-based with rice, noodles or navy beans) = 1 carbohydrate choice
- 1 sandwich (2 slices of bread, 2 ounces low-fat meat, 1 tablespoon light mayonnaise) = 2 carbohydrate choices
- 1 cup cantaloupe cubes = 1 carbohydrate choice
- coffee, tea or diet soda

**-or-**

- 3 slices thin crust medium-sized cheese pizza = 3 carbohydrate choices
- lettuce salad with 2 tablespoons low-calorie salad dressing
- ½ cup frozen yogurt = 1 carbohydrate choice
- coffee, tea or diet soda

#### **Dinner examples with 4 carbohydrate choices**

- 1 pork chop
- 1 small baked potato = 2 carbohydrate choices
- 1 teaspoon margarine
- ½ cup coleslaw
- 1 cup watermelon cubes = 1 carbohydrate choice
- 1 cup (8 ounces) fat-free milk = 1 carbohydrate choice

**-or-**

- 3 meatballs with ½ cup sauce = 1 carbohydrate choice
- ⅔ cup pasta = 2 carbohydrate choices
- green salad with 1 tablespoon dressing
- 1 cup strawberries = 1 carbohydrate choice
- coffee, tea or diet soda

**-or-**

- 1 cup stir-fry (meat, sauce and vegetables) = 1 carbohydrate choice
- ⅔ cup steamed rice = 2 carbohydrate choices
- 1 cup raspberries = 1 carbohydrate choice
- coffee, tea or diet soda

## Important

Talk with your health care team about the right amount of carbohydrates for you to have at each snack. This will depend on:

- the type of diabetes you have
- how often you have low blood glucose
- your body weight
- your physical activity level.

## Snack examples without carbohydrate

- 1 piece string cheese
- 8 almonds or cashews
- 1 ounce lean, low-sodium deli meat with 1 ounce Swiss or cheddar cheese
- 2 ounces lean meat such as chicken breast
- nonstarchy vegetables such as bell peppers, carrots, celery or cucumbers

## Snack examples with carbohydrate

- 1 piece fresh fruit with string cheese = 1 to 2 carbohydrate choices
- 1 cup fat-free milk and 3 graham crackers = 2 carbohydrate choices
- 6 ounces artificially sweetened yogurt = 1 carbohydrate choice
- 1 (3-inch) cookie = 1 carbohydrate choice
- 3 cups microwave light popcorn = 1 carbohydrate choice
- 1 granola bar (15 to 20 carbohydrate grams) = 1 carbohydrate choice
- 15 mini pretzel twists = 1 carbohydrate choice

## Meal Plan: What to Remember

- Enjoy your favorite foods in moderation.
- Eat some carbohydrates at each meal.
- Eat your regular meals at about the same time each day.
- Do not skip meals.
- Have a meal or snack every 4 to 6 hours while you are awake.

# Dining Out

## Tip

Limit alcohol. It can affect judgment and cause overeating.

- The portions are often too large.
- The amount and type of fat can be hard to figure.
- If you are very hungry, you may be tempted to make poor choices or eat too much.

## How to eat out

- Plan ahead. Do not go to a restaurant hungry.
- Eat moderate portions. Share a meal. Ask for a to-go box when you are served and put half of the meal into it before you start eating.
- Ask about child-size portions.
- Ask for salad dressing, sour cream, sauces, butter and mayonnaise on the side.
- Choose foods that are broiled, baked, grilled or steamed.
- Do not panic if you eat too much. Get back on track.

## Other tips

- You may eat or drink calorie-free and sugar-free foods. Be careful about sugar-free foods that have more than 20 calories per serving. Eating a lot of these foods may raise your blood glucose.
- Try to eat 3 to 5 servings of nonstarchy vegetables each day such as carrots, green and yellow beans, broccoli, cauliflower, lettuce and cucumbers. They have vitamins, minerals and fiber but not much carbohydrate.
- Low fat on a food label does not mean it is low in carbohydrates or calories.
- Sugar free does not mean it is carbohydrate free.

## Tip

If you are pregnant, check with your dietitian about a meal plan that is right for you.

# Chapter 4:

## Alcohol

### **In This Chapter:**

- Diabetes and Alcohol
- Serving Sizes for Different Types of Alcoholic Beverages





# Chapter 4: Alcohol

## Diabetes and Alcohol

### Tip

If you take insulin or a sulfonylurea, having more than one or two alcoholic drinks is risky behavior! It can cause severe hypoglycemia, especially if you haven't eaten.

### Tip

Avoid sweet wines and drink mixes with a lot of sugar.

Mix liquor with water, club soda or diet soda.

Alcohol is a source of calories, much like fat in the diet, so it can cause weight gain. It is not converted into glucose, but it can affect blood glucose levels.

Alcohol lowers blood glucose and can put you at risk for hypoglycemia. This happens because alcohol prevents the liver from releasing glucose. The symptoms of hypoglycemia and drunkenness can be similar.

Check with your health care provider about alcohol. If he or she says that you can drink alcohol, you can include it in your food plan as long as you follow these safe guidelines:

- Drink alcohol only when glucose levels are in good control.
- Never drink alcohol on an empty stomach. Drink alcohol with a meal or snack that contains carbohydrates.
- Limit your alcohol to no more than one to two drinks a day for men and one drink a day for women.
- Examples of one drink with minimal carbohydrates are:
  - 12 ounces of light beer
  - 5 ounces of dry wine
  - 1 ½ ounces whiskey, gin, scotch or vodka
- Examples of drinks with higher amounts of carbohydrates are:
  - wine cooler
  - regular beer
  - margaritas
  - liqueurs
  - hard liquor with regular soda or fruit juice.

- Limit alcohol when you are trying to lose weight.
- Wear a medical identification bracelet that says you have diabetes.
- Do not overeat — it can cause hyperglycemia.
- Do not drink alcohol if you are pregnant.

The chart below lists serving sizes for different types of alcoholic beverages. It also lists the number of calories and grams of carbohydrate per serving of each beverage.

## Serving Sizes for Different Types of Alcoholic Beverages

Amount	Type	Calories	Carbohydrate Content
12 ounces	beer (4.5 percent alcohol)	150	13 grams
12 ounces	light beer (2.8 to 3.5 percent alcohol)	75 to 100	5 grams
1 ½ ounces	whiskey, scotch, gin, vodka, rum, brandy, tequila (86 percent proof)	100	less than 1 gram
5 ounces	dry red wine, rose wine (12.2 percent alcohol)	85	less than 1 gram
2 ounces	dry sherry (17 percent alcohol)	80	2 grams
4 ounces	sweet kosher wine (11 percent alcohol)	130	12 grams
2 ounces	muscatel, sweet sherry port (17 percent alcohol)	95	7 grams
1 ounce	sweet or dry vermouth (12.6 percent alcohol)	35	4 grams
4 ounces	Champagne (11 percent alcohol)	100	4 grams
12 ounces	wine cooler (5 percent alcohol)	215	30 grams

**Note: 12 ounces of non-alcoholic beer contain 60 calories.**

**Note: 4 ounces of non-alcoholic wine contain 30 calories.**

# Chapter 5:

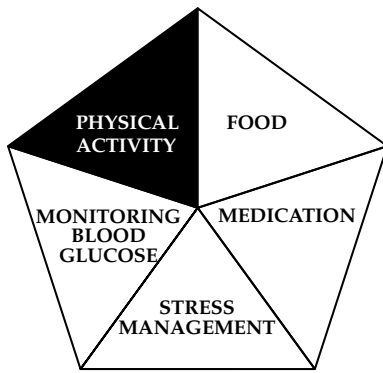
## Physical Activity and Exercise

### **In This Chapter:**

- Differences Between Activities and Exercise
- Exercise Guidelines
- Types of Exercise
- Example: Weekly Exercise Program
- How to Stick With an Exercise Program
- Making Changes and Goal Setting



# Chapter 5: Physical Activity and Exercise



Physical activity and exercise are important for everyone, but especially for people with diabetes. They can lower your blood glucose level and help your body use insulin better. Other benefits include:

- lowering blood pressure
- decreasing **bad** cholesterol and increasing **good** cholesterol
- improving strength and endurance
- increasing flexibility and balance
- making it easier to maintain your weight
- helping you to feel better and have more energy
- more confidence and independence
- reducing stress
- decreasing your risk of dementia
- better quality sleep.

## Differences Between Activities and Exercise

### Did You Know?

Exercise also has mental health benefits. Exercise can improve your:

- mood
- sleep
- attitude
- and more!

Activities are things you do each day such as walking to your car, making a meal, or doing a hobby or housework. These keep your body moving throughout the day.

Exercises are physically exerting movements done to make your muscles, heart and lungs stronger. They must go above and beyond what you do in your daily routine. For example, going to the grocery store is not exercise but going to the mall to intentionally walk would be considered exercise.

Your daily activities are important but regular exercise is needed for all of the benefits listed above.

## Exercise Guidelines

Remember the following exercise guidelines.

- Check with your health care provider before starting a program.
- Avoid outdoor exercise in very hot or cold temperatures.
- Start your exercise slowly by stretching and warming up (a slow pace of exercise for 5 minutes). Finish your exercise by cooling down (a slower-paced exercise for 10 minutes).
- Do not exercise if you have type 1 diabetes and your blood glucose is more than 250 mg/dL.
- If you take insulin or sulfonylurea, carry candy or glucose tablets with you during exercise to use if your blood glucose gets below 80 mg/dL or if you have symptoms of low blood glucose.
- Check your blood glucose before and after exercise if you take insulin or a sulfonylurea. If your glucose level is less than 100 mg/dL before you start to exercise, have a piece of fruit, ½ cup of fruit juice or any other food that can give you 15 grams of carbohydrate.
- If you have low blood glucose two times a week before or after exercise, be sure to check with your health care provider or diabetes educator to see if you need a change in your diabetes medicine.
- Check your feet for signs of blisters, redness or injury. Do not exercise until your feet have healed.

# Types of Exercise

## Tip

To tell how hard you are exercising you can use the “talk test.” This is your ability to have a fairly normal conversation while exercising. If you can sing, you need to work a little harder. If you have trouble talking, you need to slow down.

## Tip

Drink water before, during and after exercise.

There are four types of exercise, including:

- **aerobic (cardiorespiratory):** Aerobic exercise continues for a period of time (at least 10 minutes) without rest. In order to be considered “aerobic,” an exercise must cause you to experience one or more of the following:
  - make you mildly short of breath
  - increase your heart rate
  - cause you to sweat.

**The National Institute on Aging (NIA) recommends that all adults have at least 150 minutes of aerobic exercise each week.** It is best for you to do aerobic exercise 5 to 7 times each week.

- **strength training:** Strength training applies resistance to your muscles which can increase strength, reduce body fat and improve bone health. It is important that you increase the amount of resistance over time. Examples include using:
  - elastic bands
  - cuff and hand weights
  - weight machines.

You can even use your own body weight to increase strength!

**The American College of Sports Medicine (ACSM) recommends that all adults do strength-training exercises at least 2 times each week with at least 1 day of rest in between. As you strength train:**

- make sure to include exercises that target your largest muscles in your upper and lower body
- use enough weight for your muscles to be tired between 8 and 15 repetitions
- increase the amount of weight you are lifting when you can do 15 repetitions or more.

## Tip

Examples of exercise are:

- swimming
- rowing
- jogging
- walking
- biking
- low-impact aerobics.

- **balance exercises:** Balance exercises can help to improve your steadiness, reaction time and mobility. Examples include dancing, yoga, Tai Chi and even standing on one leg.

**The ACSM recommends to do 20 to 30 minutes of balance exercises 2 to 7 times each week.**

- **stretching:** Stretching can help to improve flexibility and reduce joint and muscle stiffness. Being more flexible will help you move more freely to do your daily activities.

**According to the ACSM, stretching should be done 3 to 7 times each week. Hold each stretch for 10 to 30 seconds and repeat 2 to 4 times.** Make sure to relax and breathe. Do not hold your breath or bounce as this could cause an injury.

## Example: Weekly Exercise Program

The following page shows an example of how you could plan out 1 week of aerobic exercise, strength training, balance exercises and stretching. Use this as a guide as you plan your exercise program each week. It is important that you plan different exercises (or different combinations of exercises) to continue to build and maintain your muscles and bones.



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	30 minutes aerobic exercise	30 minutes aerobic exercise		30 minutes aerobic exercise	30 minutes aerobic exercise	30 minutes aerobic exercise
	Strength training		Strength training		Strength training	
		20 to 30 minutes balance exercise	20 to 30 minutes balance exercise		20 to 30 minutes balance exercise	20 to 30 minutes balance exercise
	Stretching	Stretching		Stretching		Stretching

Here are some examples of activities you can do for each type of exercise:

Aerobic Exercise	Strength Training	Balance Exercise	Stretching
<ul style="list-style-type: none"> <li>■ walking</li> <li>■ biking</li> <li>■ swimming</li> <li>■ dancing</li> <li>■ aerobics</li> <li>■ cardio equipment (treadmill, elliptical, bike)</li> </ul>	<ul style="list-style-type: none"> <li>■ upper body exercises</li> <li>■ lower body exercises</li> <li>■ core (abdominal) exercises</li> <li>■ variety of upper, lower and core exercises</li> </ul>	<ul style="list-style-type: none"> <li>■ standing exercises</li> <li>■ Tai Chi</li> <li>■ Qigong</li> <li>■ head movements and eye exercises</li> </ul>	<ul style="list-style-type: none"> <li>■ flexibility exercises</li> <li>■ Pilates</li> <li>■ yoga</li> <li>■ chair yoga</li> </ul>

# How to Stick With an Exercise Program

If you've tried an exercise program in the past that didn't work, don't get discouraged. You can start — and stick with — an exercise program!

- Set a routine. Aim for getting at least 30 minutes of physical activity most days. For example, go for a 30-minute walk at 9 a.m. Or, you can break it up into chunks. Go for a 15-minute walk in the morning and do 15 minutes of strength training in the afternoon.
- Set goals that are specific and realistic. You can't go from no exercise to walking 5 miles a day overnight. Start by walking around the block once or twice. The more exercise you do, the stronger you'll get.
- Exercise with a buddy to help keep you accountable.
- Choose activities you enjoy. Find several activities you can do all year such as walking, bike riding, lifting weights or dancing, so you won't get bored.
- In addition to exercise, try to sneak bits of other activity into each day.
  - Park your car at the end of the parking lot and walk to the store.
  - Take the stairs instead of an escalator or elevator.
  - Get up and walk around every hour if you have a job or hobby that involves sitting.
- To get the right amount of activity through walking, most people need to take about 10,000 steps a day. The average person takes between 700 and 2,500 steps a day! You can buy an inexpensive pedometer or track through an app on your phone to count your steps.
- If you break your new routine, don't be too hard on yourself. Figure out what derailed you and get back on track.

# Making Changes and Goal Setting

## SMART goals

Making changes can be challenging — but it's possible! Changing everything at once can be overwhelming, which is why it's best to set smaller, attainable goals.

Learning to set SMART goals can help you be successful.

**S** **Specific:** What would you like to do?

**M** **Measurable:** How will you know when you've done it?

**A** **Attainable:** Is it something you are able to do?

**R** **Relevant:** Is it important to you?

**T** **Time-bound:** When is the deadline?

## SMART goal example

Here is an example of a SMART goal.

**S** I would like to eat healthier.

**M** I will know I'm eating healthier when I'm eating three servings of vegetables every day.

**A** I will accomplish my goal by keeping easy-to-grab, single-serving containers of fresh vegetables in my refrigerator.

**R** It's important for me to eat healthier to have enough energy to keep up with my busy schedule.

**T** I will start eating healthier on Monday, after I've done my weekend grocery shopping.



**Tip**

Make sure you're celebrating your successes (big and small) as you work toward your goals!

**It's your turn!**

Now that you know how to set goals it's your turn to try! Write down a goal to work on this week using what you've learned about SMART goals.

**S**

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**M**

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---

**A**

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---

**R**

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**T**

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# Chapter 6:

## Weight Management

### **In This Chapter:**

- Importance of Achieving and Maintaining a Healthy Weight
- Forget About Fad Diets
- What it Takes to Lose 1 Pound in 1 Week
- Meal Time Weight Loss Tips
- Dining Out Tips
- Heart-smart Cooking
- Don't Get Discouraged If You Slip
- Need Help?
- Food and Physical Activity Diary



# Chapter 6: Weight Management

## Importance of Achieving and Maintaining a Healthy Weight

You can be successful at losing weight but it takes time. You need to have a plan.

When you have diabetes, there are some important reasons to achieve or maintain a healthy weight:

- Weight loss improves blood glucose levels.
- Weight loss reduces your risk of heart disease, which is the leading cause of death in people with diabetes.
- Losing as little as 5 to 10 percent of your total body weight can make a big difference in your health. (That's 10 to 20 pounds if you weigh 200 pounds.)

## Forget About Fad Diets

### Tip

Don't weigh yourself more than once a week.

It's common to lose weight on a fad diet and then gain it all back — and more! Fad diets won't help you learn healthier food habits. A healthy lifestyle will help you look and feel your best.

## What it Takes to Lose 1 Pound in 1 Week

### Did You Know?

Eating a small piece of fruit instead of a doughnut for a snack will save at least 100 calories.

There are 3,500 calories in 1 pound. This means that to lose 1 pound in 1 week, you need to cut 500 calories out of the foods and beverages you consume each day. You can do this by eating and drinking fewer calories than you usually do, and exercising.

The healthiest way to lose 1 pound in 1 week is to:

- burn 250 calories with exercise each day and cut 250 calories out of the foods and beverages you consume each day.

## Important

Remember to check with your health care provider before starting any new exercise program.

To make this work, try the following.

- Keep track of your current eating habits and look for easy targets to cut out. If, for example, you eat at a fast food restaurant, a hamburger and small fries is about 500 calories but a quarter-pound hamburger and medium fries is about 900 calories. You save 400 calories by choosing the smaller meal.
- Keep track of your exercise and activity habits for a few days. Do you always look for the closest parking spot in the parking lot? Do you take the elevator rather than walk up a few flights of stairs? You can increase your activity by making a few simple changes.

The following chart shows how many calories are burned in 10 minutes by doing certain exercises and activities, according to how much you weigh.



Exercise or Activity	Your Weight in Pounds		
	120 to 130	160 to 170	190 to 200
	Calories Burned		
Walking 2 mph (30 minutes per mile)	30	40	45
Walking 3 mph (20 minutes per mile)	40	50	60
Walking 4 mph (15 minutes per mile)	55	70	85
Aerobic dance	60 to 105	75 to 140	90 to 165
Bicycling (outdoors)	40 to 145	50 to 195	60 to 230
Bicycling (indoor stationary)	25 to 145	30 to 195	40 to 230
Calisthenics	40 to 105	50 to 140	60 to 165
Dancing	30 to 80	40 to 150	45 to 120
Jogging 5 mph (12 minutes per mile)	90	115	135
Jogging 6 mph (10 minutes per mile)	105	140	165
Skiing (cross country)	60 to 145	75 to 195	90 to 230
Swimming	50 to 125	65 to 165	75 to 200

## Meal Time Weight Loss Tips

- Don't skip meals. It slows down your metabolism and you may get so hungry that you overeat.
- Eat more slowly.
- Eat foods with fiber such as fruits, vegetables and whole grains to control hunger.
- Limit snacking when you watch TV.
- Drink a full glass of water before a meal.
- Drink fat-free or 1% milk instead of 2% or whole milk.

## Dining Out Tips

- Study the menu and ask how foods are prepared.
  - **Good choices:** steamed, meat or fish in its own juice, garden fresh, broiled, roasted, poached.
  - **High-fat choices:** fried, breaded, battered, melted cheese on top, creamed, escalloped, butter sauce, pan-fried, sauteed, au gratin.
- Ask for substitutions. Instead of butter, can you get trans fat-free margarine? Is fat-free milk available?
- Order salad dressings and sauces to be served on the side so you control the amount that goes on your food. Ask for light dressing.
- Try lemon juice or vinegar and oil in place of salad dressings.
- Ask for mustard or ketchup on sandwiches instead of mayonnaise. If you have mayonnaise, order it on the side and use only a small amount.
- Substitute fruit or vegetables for potato chips or french fries.
- Order vegetarian pizza instead of pepperoni or sausage. Ask for half the cheese and more tomato sauce.
- At fast food restaurants, order plain foods such as a regular hamburger or a broiled chicken breast. Skip the bacon, cheese and sauces.

- For dessert, try a scoop of frozen yogurt, sherbet, gelatin or fresh berries.
- Be aware of your serving sizes. Larger serving sizes mean more sodium and fat.

## Heart-smart Cooking

### Tip

The more liquid the margarine is, the less trans fat it has. Soft margarines are a better choice than hard ones.

Choose trans fat-free margarines or cooking sprays.

- Choose low-fat (lean) cuts of meat labeled “loin” or “round.”
- Remove all fat from meats, and skin and fat from poultry before cooking.
- Use cooking methods that use little or no fat: boil, broil, braise, slow cook, bake, roast, poach, steam, saute, stir-fry with a small amount of recommended oil or use the microwave.
- Don’t deep-fry foods. Instead, saute meats or vegetables in a small amount of oil, flavored vinegars, low-calorie cooking spray, water or low-sodium broth.
- Pan broil foods on a nonstick surface. Remove any fat as it cooks.
- Coat cookware with a low-calorie cooking spray or lightly oil the pan. Avoid using shortening or butter.
- Skim fat off soups and stews before serving. Use an ice cube to congeal and remove fat, or a gravy strainer to separate fat from the juices. Chill soups, stews and gravies after cooking so you can remove the hardened fat from the top.
- Choose fat-free or low-fat milk, and low-fat yogurt and cheeses.
- Use herbs, spices or lemon juice to add flavor, instead of butter, bacon or salt.

## Don’t Get Discouraged If You Slip

It’s hard to make several positive changes all at once. Don’t get discouraged if you skipped a couple of days of exercise or ate too many cookies! Get back on track the next day.

## Need Help?

Reasons for overeating can sometimes be complicated. Talk to your health care provider or check for local resources if you need help.

## Food and Physical Activity Diary

Use the following example for how to fill out the diary on the next pages. You can make copies of the diary or keep track of the information in a notebook.

Meal	Food or Beverage	Amount	Carb Choices per Serving	Physical Activity or Exercise
<b>Breakfast</b>	<i>bran flakes</i>	<i>1 cup</i>	<i>2</i>	<i>Walked for 30 minutes before breakfast.</i>
	<i>banana</i>	<i>1 small</i>	<i>2</i>	
	<i>milk</i>	<i>½ cup</i>	<i>½</i>	
	<i>trans fat-free margarine</i>	<i>1 teaspoon</i>	<i>0</i>	
	<i>coffee, regular</i>	<i>1 cup</i>	<i>0</i>	
<b>Lunch</b>	<i>whole-grain bread</i>	<i>2 slices</i>	<i>2</i>	
	<i>lean roast beef</i>	<i>2 ounces</i>	<i>0</i>	
	<i>lettuce</i>	<i>1 leaf</i>	<i>0</i>	
	<i>tomato</i>	<i>3 medium slices</i>	<i>0</i>	
	<i>mayonnaise (low calorie)</i>	<i>2 teaspoons</i>	<i>0</i>	
	<i>apple</i>	<i>1 medium</i>	<i>1</i>	
	<i>water</i>	<i>8 ounces</i>	<i>0</i>	
<b>Dinner</b>	<i>salmon, broiled</i>	<i>3 ounces</i>	<i>0</i>	
	<i>vegetable oil</i>	<i>1 ½ teaspoons</i>	<i>0</i>	
	<i>potato, baked</i>	<i>1 small</i>	<i>2</i>	
	<i>trans fat-free margarine</i>	<i>1 teaspoon</i>	<i>0</i>	
	<i>green beans (with trans fat-free margarine)</i>	<i>½ cup</i>	<i>½</i>	
	<i>carrots</i>	<i>½ cup</i>	<i>½</i>	
	<i>dinner roll, white</i>	<i>1 medium</i>	<i>1</i>	
<b>Snacks</b>	<i>popcorn</i>	<i>2 ½ cups</i>	<i>1</i>	<i>Watched movies.</i>
	<i>trans fat-free margarine</i>	<i>½ teaspoon</i>	<i>0</i>	

# Food and Physical Activity Diary

Date: \_\_\_\_\_

Meal	Food or Beverage	Amount	Carb Choices per Serving	Physical Activity or Exercise
Breakfast				
Lunch				
Dinner				
Snacks				

# Food and Physical Activity Diary

Date: \_\_\_\_\_

Meal	Food or Beverage	Amount	Carb Choices per Serving	Physical Activity or Exercise
Breakfast				
Lunch				
Dinner				
Snacks				



# Chapter 7:

## Diabetes and Emotional Health

### **In This Chapter:**

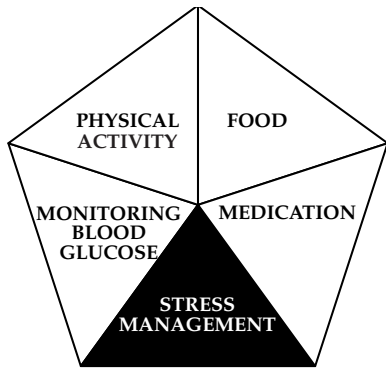
- Stress and Ways of Coping With It
- How to Manage Your Stress
- How to Relax
- Diabetes and Depression
- The Effects of Diabetes on Your Life





# Chapter 7: Diabetes and Emotional Health

## Stress and Ways of Coping With It



Everyone has stress in his or her life. Too much stress can cause your blood glucose to go up.

When you are under stress, you may not follow your usual healthy habits. Some people may not eat properly. Some might forget to exercise. Others don't check their blood glucose levels.

Most people know what causes stress in their lives. Many people do not think about how to handle stress. Even positive things such as a new job, a birth and celebrations may be stressful and affect your blood glucose.

Sometimes it's helpful to make a list of what causes stress in your life. Then think about ways to make these things less stressful.

### Mindfulness

Mindfulness is a technique that can help to manage your anxiety by calming your mind. You can learn to recognize thoughts just as thoughts, not as facts, and learn to let them go.

For example, your work might cause you stress. You know that taking a short walk at break time usually calms you down. Or your children might stress you out. You know that taking a warm bath helps you unwind at the end of the day.

You can use the worksheet in this chapter to list your stressful situations and possible ways of coping with them.

# How to Manage Your Stress

To manage stress, start by learning about yourself. What do you like? What frustrates you? What calms you down? What stresses you out? Know that, and you're on your way to managing stress.

Here are some tips to help you manage stress.

- **Maintain good health habits.**

Eat healthful foods and avoid caffeine, alcohol and nicotine. A healthy body tolerates stress more effectively.

- **Be physically active.**

Physical activities often relieve the body of unnecessary tensions. Strenuous exercise is not necessary because even moderate exercise has health benefits.

- **Get plenty of rest.**

Your body and mind need to “re-energize” each night. Most adults do not get enough sleep each night.

- **Structure daily activities.**

Plan out your activities to make the best use of your time. Make sure to include personal time for yourself and do something you enjoy.

- **Set realistic goals.**

Ask for help if you need it.

- **Do not worry about things you cannot change.**

Let it go. Focus on what you can do.

- **Identify what causes you stress.**

Avoid those situations if possible.

- **Talk about stress.**

Talking with a close friend, spouse or health care provider may help you relax.

## How to Relax

- Find a comfortable position on the floor.  
Use pillows to support your head and legs.
- Keep all of your joints flexed and supported.  
Do not rest one body part on another.
- Take a deep breath and relax.
- Contract the muscles of your forehead. Release.
- Focus your eyes. Release.
- Clench your teeth. Release.
- Contract your jaw. Release.
- Draw your shoulders up toward your ears. Release.
- Make fists and straighten your elbows. Release
- Take a deep breath, expand your chest and hold.  
Release.
- Tighten your abdominal muscles. Release.
- Squeeze your buttocks together. Release.
- Tighten your pelvic muscles. Release.
- Tighten your thighs. Release.
- Tighten your calves. Release.
- Point your toes toward your nose. Release.
- Contract everything. Release.
- Let your entire body relax.
- Breathe deeply in a rhythm.
- Rest this way for a few minutes.
- Get up slowly and gently.

# Diabetes and Depression

People who have diabetes are more likely to become depressed than those who do not have diabetes. The exact cause is not known. It could be a chemical imbalance in the brain or the feelings of helplessness, frustration and unpredictability of diabetes that can cause depression.

It takes energy, motivation and drive for life to manage diabetes well. Taking your medicines, testing your blood glucose, eating healthy and being physically active can be hard if you are depressed.

Symptoms of depression are:

- feeling sad or empty most of the time
- decreased interest in most activities
- change in weight, appetite or both
- trouble sleeping or sleeping too much
- feeling agitated or sluggish
- fatigue or loss of energy
- feeling worthless or guilty
- problems concentrating or making decisions
- thoughts of death or suicide.

Talk to your health care provider if you have any, some or all of the above symptoms nearly every day. Professional counseling, antidepressant medicines or both are effective in treating depression.

## Tip

Live your life!  
Don't live for diabetes.

Another idea for helping to deal with depression is to answer the following questions for yourself:

- What have I lost?  
(Example: I can't eat anything I want.)
- What is left?  
(Example: I can still eat.)
- What is possible?  
(Example: I can have great meals, get better nutrition and have treats in smaller servings.)

You may find out that the "what is possible" list is longer than the "what have I lost" list. Use the chart on the next page to assess how diabetes is affecting your life.

# The Effects of Diabetes on Your Life

What's Lost	What's Left	What's Possible
Example: <i>I can't eat anything I want.</i>	Example: <i>I can still eat. I can still have treats in smaller servings.</i>	Example: <i>I can make or eat great meals and get better nutrition.</i>

# Chapter 8:

## Medicine — Diabetes Pills

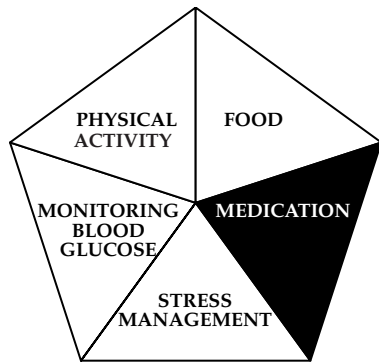
### **In This Chapter:**

- Medicines That Increase Insulin Release
- Medicines That Decrease Glucose Reabsorption in Kidneys
- Medicines That Improve Insulin Sensitivity
- Combination Medicines





# Chapter 8: Medicine — Diabetes Pills



## Tip

See Chapter 10 for information about hypoglycemia (low blood glucose).

Some people need to take pills to help control blood glucose levels. These are not insulin, but they do help your body use its own insulin. Your health care provider will decide what pill or pills will be most helpful to you. At some point your health care provider may change your pills for better blood glucose control.

Important things to know about your diabetes pills include:

- the name and amount to take
- when to take them
- how they work
- side effects
- special warnings.

If you are taking diabetes pills and become pregnant, check with your health care provider about your diabetes medicine. Other ways to manage your diabetes may be needed.

If you are traveling in an airplane, keep all of your medicines in their original containers with the pharmacy labels. Put your medicine in your carry-on luggage.

### Medicines That Increase Insulin Release

Medicine Type	Medicine Name	When to Take	Possible Side Effects	Warnings
<b>Sulfonylureas</b>	<ul style="list-style-type: none"> <li>■ Glucotrol® or XL (glipizide)</li> <li>■ Diabeta®</li> <li>■ Micronase®</li> <li>■ Glynase® (glyburide)</li> <li>■ Amaryl® (glimepiride)</li> </ul>	With food	<ul style="list-style-type: none"> <li>■ Low blood glucose (hypoglycemia)</li> <li>■ Upset stomach (nausea)</li> <li>■ Constipation or diarrhea</li> <li>■ Headache</li> <li>■ Stomach pain</li> <li>■ Sensitivity of skin to sunlight</li> <li>■ Skin reactions</li> </ul>	
<b>Glinides</b>	<ul style="list-style-type: none"> <li>■ Prandin® (repaglinide)</li> <li>■ Starlix® (nateglinide)</li> </ul>	Before each meal, up to 4 times a day	<ul style="list-style-type: none"> <li>■ Low blood glucose (hypoglycemia)</li> <li>■ Upper respiratory infections or sinus infections</li> </ul>	Do not take a dose if you miss a meal.

### Medicines That Decrease Glucose Reabsorption in Kidneys

Medicine Type	Medicine Name	When to Take	Possible Side Effects	Warnings
<b>Sodium-glucose cotransporter 2 (SGLT2) inhibitors</b>	<ul style="list-style-type: none"> <li>■ Farxiga™ (dapagliflozin)</li> <li>■ Invokana® (canagliflozin)</li> <li>■ Jardiance® (empagliflozin)</li> </ul>	With breakfast	<ul style="list-style-type: none"> <li>■ Urinary tract infections</li> <li>■ Increased urinary frequency</li> <li>■ Female genital infections</li> <li>■ Weight loss</li> </ul>	Do not take if you have severe kidney disease.

## Medicines That Improve Insulin Sensitivity

Medicine Type	Medicine Name	When to Take	Possible Side Effects	Warnings
<b>Biguanides</b>	<ul style="list-style-type: none"> <li>■ Glucophage<sup>®</sup></li> <li>■ Glucophage XR<sup>®</sup></li> <li>■ Fortamet<sup>®</sup></li> <li>■ Glumetza<sup>®</sup> (metformin)</li> </ul>	With food	<ul style="list-style-type: none"> <li>■ Upset stomach (nausea)</li> <li>■ Diarrhea</li> </ul>	<ul style="list-style-type: none"> <li>■ Do not take if you have poor liver or kidney functioning or if you have severe congestive heart failure.</li> <li>■ Do not drink large amounts of alcohol.</li> <li>■ Talk with your health care provider if you are having surgery or a test with dye.</li> </ul>
<b>Glitazones (TZDs)</b>	<ul style="list-style-type: none"> <li>■ Avandia<sup>®</sup> (rosiglitazone)</li> <li>■ Actos<sup>®</sup> (pioglitazone)</li> </ul>	With breakfast	<ul style="list-style-type: none"> <li>■ Fluid retention</li> </ul>	<ul style="list-style-type: none"> <li>■ Do not take if you have poor liver or kidney functioning or if you have severe congestive heart failure.</li> <li>■ These may increase the risk of becoming pregnant.</li> </ul>
<b>DPP-4</b>	<ul style="list-style-type: none"> <li>■ Januvia<sup>™</sup> (sitagliptin)</li> <li>■ Onglyza<sup>®</sup> (saxagliptin)</li> <li>■ Tradjenta<sup>®</sup> (linagliptin)</li> <li>■ Nesina (alogliptin)</li> </ul>	With breakfast	<ul style="list-style-type: none"> <li>■ Inflammation of the throat</li> <li>■ Skin reactions</li> </ul>	

## Combination Medicines

- Actoplus Met<sup>®</sup>  
(pioglitazone and metformin)
- Avandamet<sup>®</sup>  
(Avandia<sup>®</sup> and metformin)
- DuetAct<sup>®</sup>  
(glimepiride and pioglitazone)
- Glucovance<sup>®</sup>  
(glyburide and metformin)
- Invokamet<sup>™</sup>  
(canagliflozin and metformin)
- Janumet<sup>®</sup>  
(Januvia<sup>®</sup> and metformin)
- JentaDuetto<sup>®</sup>  
(linagliptan and metformin)
- Kazano  
(alogliptin and metformin)
- Kombiglyze<sup>™</sup>  
(saxagliptin and metformin)
- Metaglip<sup>™</sup>  
(glipizide and metformin)
- Oseni  
(alogliptin and pioglitazone)
- Prandimet<sup>®</sup>  
(repaglinide and metformin)
- Xigduo<sup>™</sup>  
(empagliflozin and metformin)

# Chapter 9:

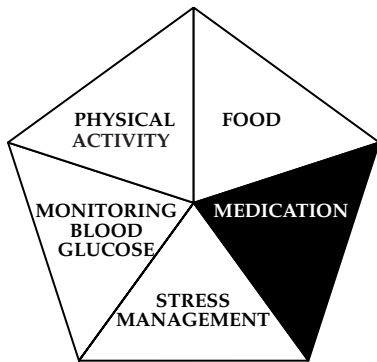
## Insulin and Other Injectables

### **In This Chapter:**

- Your Type of Insulin
- Your Times and Amounts
- Things to Remember
- Time-action of Different Insulins
- Other Injectables
- Where to Give Injections (Shots)
- The Insulin Pen
- How to Give Shots with an Insulin Pen
- How to Care for Your Insulin Pens
- How to Measure and Inject a Single Type of Insulin Using an Insulin Bottle and Syringe
- How to Measure and Inject Two Types of Insulin Using Insulin Bottles and Syringes
- How to Get Rid of Your Sharps (Needles, Syringes and Lancets) Safely



# Chapter 9: Insulin and Other Injectables



Insulin is a hormone that is made by the pancreas. If your pancreas does not make any insulin or does not make enough insulin, your health care provider may want you to take injections (shots) of insulin.

Your health care provider or diabetes educator will decide what types of insulin you should take, when you should take them and how often. It is common to take more than one type of insulin. Have your health care provider or nurse write down this important information for you below.

## Your Type of Insulin

Long-acting Insulin	Medium-acting Insulin	Short-acting Insulin	Rapid-acting Insulin	Mixed Insulin
<input type="checkbox"/> Lantus® <input type="checkbox"/> Basaglar® <input type="checkbox"/> Levemir® <input type="checkbox"/> Tresiba® <input type="checkbox"/> Toujeo®	<input type="checkbox"/> NPH	<input type="checkbox"/> Regular <input type="checkbox"/> Humulin® R U-500	<input type="checkbox"/> Humalog® (lispro) <input type="checkbox"/> NovoLog® (aspart) <input type="checkbox"/> Apidra® (glulisine) <input type="checkbox"/> Admelog® (lispro) <input type="checkbox"/> Fiasp® (aspart)	<input type="checkbox"/> 70/30 Novolin® <input type="checkbox"/> 50/50 Humalog® <input type="checkbox"/> 75/25 Humalog® <input type="checkbox"/> 70/30 NovoLog®

Other \_\_\_\_\_.

# Your Times and Amounts

## Record times and amounts:

before breakfast: \_\_\_\_\_

before lunch: \_\_\_\_\_

before evening meal: \_\_\_\_\_

before bed: \_\_\_\_\_

*As a rule, take your insulin 30 minutes before your meal if you take Regular. If you take Humalog<sup>®</sup>, NovoLog<sup>®</sup> or Apidra<sup>®</sup>, take it right before your meal.*

## Things to Remember

### Tip

Insulin can be used with a bottle and syringe or a pen device. Ask your diabetes educator to help you find the best technique for you.

- The timing of insulin injections and meals is important to controlling your blood glucose levels. Ask your health care provider or diabetes educator to review your individual plan with you.
- Take your insulin every day, even if you are feeling sick. If you cannot eat as you usually do because you are sick, follow sick day guidelines. See Chapter 12: Sick Days and Diabetes.
- Do not change the amount of insulin that you take without talking to your health care provider or diabetes educator (unless you have been trained to do so).
- See the end of this chapter for information about how to safely get rid of used sharps (needles, syringes and lancets).



## Time-action of Different Insulins

Insulins	Starts Working	Peaks	Stops Working
<b>Rapid Acting:</b> Humalog® (lispro) NovoLog® (aspart) Apidra® (glulisine) Admelog® (lispro) Fiasp® (aspart)	5 to 15 minutes	1 to 2 hours	3 to 4 hours
<b>Short Acting:</b> Regular (R)	30 to 45 minutes	3 hours	4 to 8 hours
<b>Intermediate Acting:</b> NPH (N)	2 to 4 hours	4 to 8 hours	10 to 16 hours
<b>Concentrated:</b> Humulin® R U-500	30 minutes	2 to 4 hours	up to 24 hours
<b>Pre-mix*:</b> <b>Intermediate-acting/rapid acting</b> Humalog® Mix 75/25 Humalog® Mix 50/50 (lispro protamine/lispro) NovoLog® Mix 70/30 (aspart protamine/aspart) <b>NPH and regular insulin</b> Humulin® 70/30, Novolin® 70/30	5 to 15 minutes	1 to 2 hours/ some increase at 4 to 8 hours	10 to 16 hours
<b>Basal**:</b> Lantus® (glargine) Levemir® (detemir) Toujeo® (glargine U300) Basaglar® (glargine) Tresiba® (degludec U100 or U200)  <b>Note:</b> Toujeo® (glargine U300) and Tresiba® (degludec U200) are concentrated basal insulins.	30 to 45 minutes	2 to 3 hours/ 4 to 8 hours	10 to 16 hours
	2 hours	No peak	24 to 48 hours
<b>*The long-acting insulin may work the best between 4 and 8 hours.</b> <b>**Do not mix basal insulin in the same syringe with other types of insulin.</b>			

### Important information

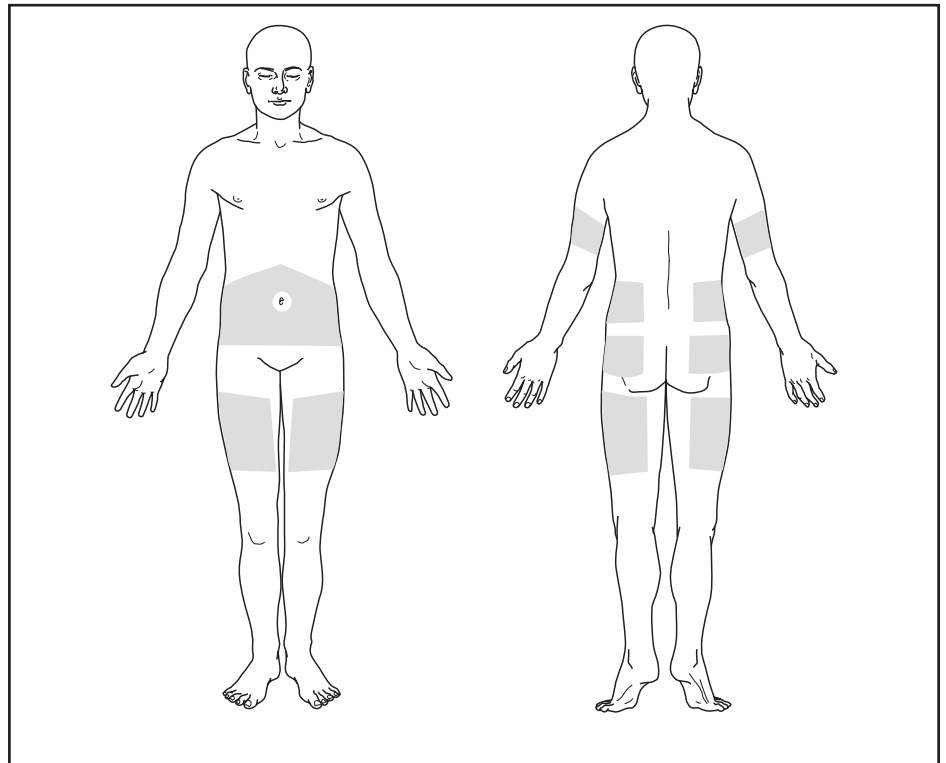
- Give rapid-acting insulin 15 minutes before a meal.
- Give Regular 30 minutes before a meal.
- Do not mix basal insulin in the same syringe with other types of insulin.

## Other Injectables

Injectable	Starts Working	Peaks	Stops Working
<p><b>GLP-1 Injections:</b></p> <p>*Byetta®            *Victoza®            *Bydureon®            *Ozempic®            *Trulicity™</p> <p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>■ regulates the amount of insulin released after eating</li> <li>■ decreases the release of glucose by the liver</li> <li>■ reduces appetite (can increase weight loss)</li> <li>■ slows the rate of food that is absorbed</li> </ul>	<p><b>Byetta®:</b> within 60 minutes</p> <p><b>Bydureon®:</b> can take 2 to 3 weeks for full effect</p>	<p>2 hours</p> <p>—</p>	<p>6 to 10 hours</p> <p>—</p>
<p><b>Pramlintide Acetate Injection:</b></p> <p>**Symlin®</p> <p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>■ regulates glucose levels after eating</li> <li>■ decreases the release of glucose by the liver</li> <li>■ reduces appetite (can increase weight loss)</li> <li>■ slows the rate of food that is absorbed</li> </ul>	<p>15 minutes</p>	<p>48 minutes</p>	<p>3 hours</p>
<p><b>Insulin/GLP-1 Combination:</b></p> <p>*Xultophy            *Soliqua</p>	<p>1 to 2 hours</p>	<p>No peak</p>	<p>24 hours</p>
<p>* Used with sulfonylureas, metformin or TZD.            ** Used with insulin.</p>			

## Where to Give Injections (Shots)

- Choose an area in your abdomen, upper or outer thigh, the back of your upper arms or your buttocks.
- Stay 2 inches away from previous insulin injections or other shots.
- Stay 2 inches away from your belly button or from any scar.
- Do not use sites that are bruised, tender or swollen.
- Inject the insulin in different areas to prevent scars. The insulin will also absorb into your bloodstream better.

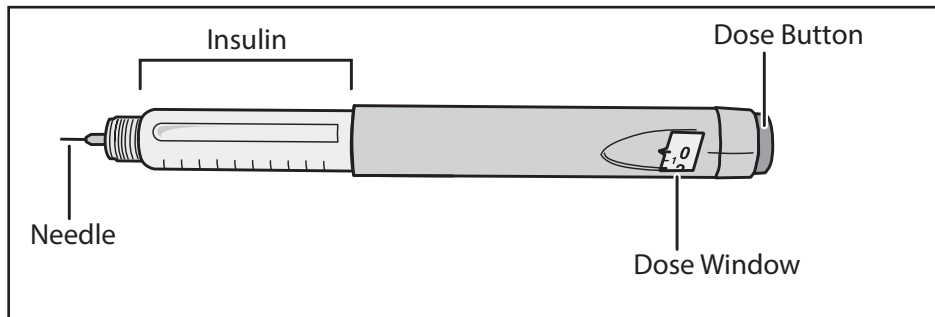


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**The areas in gray are where to give injections.**

# The Insulin Pen

Your insulin pen has a dial which you set to give the right amount of insulin. You can see the right amount through the dose window.

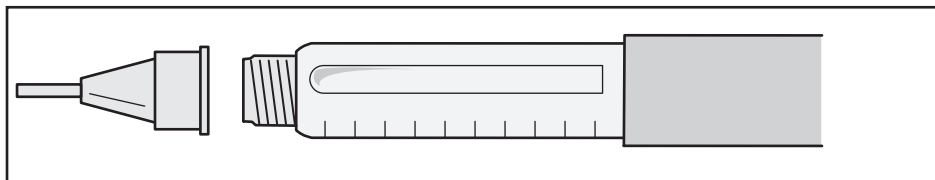


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**The labeled parts of the insulin pen.**

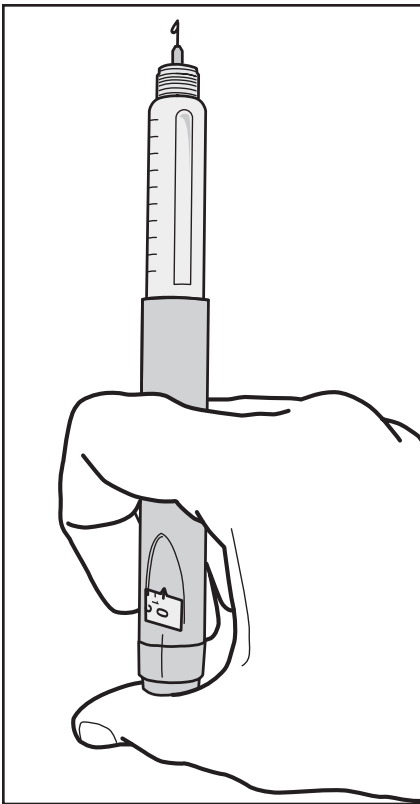
## How to Give Shots with an Insulin Pen

1. Collect all of your supplies.
2. Wash your hands.
3. Clean your skin with an alcohol pad.  
Let the area air dry.
4. Take the cover off the pen. The insulin is already in the pen.
5. If you are using cloudy insulin, gently roll the pen between your hands to mix the insulin.
6. Wipe off the end of the pen with where the needle will screw on with an alcohol pad.
7. Peel off the paper cover on the pen needle.  
Screw the needle onto the pen.



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**The needle will need to screw into the end of the pen.**

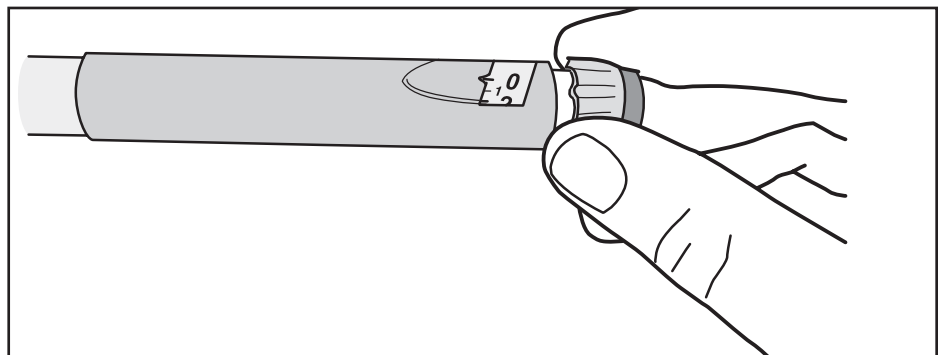


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**Be sure you see a drop of insulin at the tip of the needle.**

8. Remove the **two** covers from the needle.
9. Turn the dose dial to 2 (units).
10. Hold the pen so the needle is pointing up.
11. Push in the dose button at the end of the pen to clear the air out of the pen. (See drawing at left.) You should see a drop of insulin at the tip of the needle. You may need to repeat steps 9 through 11 until you see the drop of insulin.

12. Turn the dose dial to the number of units of insulin you will inject.



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**Turn the dose dial to the number of units of insulin.**

### **When to Call Your Health Care Provider**

Call your health care provider if you have questions about how to use the insulin pen. You may also call the toll-free phone number on the insulin pen box.

13. Pinch and hold your skin at the site you will be giving your shot. Push the needle straight in. The needle should be all the way into your skin.
14. Using your thumb, push the dose button in all the way. **Count to 10.**
15. Let go of the pinch of skin.
16. Pull out the needle.
17. Unscrew the needle from the pen. Throw it into a container for needles. Be sure to put the lid on the container.
18. Put the cover back on the pen.

## How to Care for Your Insulin Pens

- Insulin pens come with 5 in a box. Store the pens you are not using in the refrigerator.
- The pen you are using can be kept at room temperature.
- Do not let the pen you are using either freeze or get warmer than 88 F.
- Keep the pen you are using out of direct sunlight.
- Your \_\_\_\_\_ insulin pen can be used for \_\_\_\_\_ days after you take it out of the refrigerator.
- Check the expiration date on the box of insulin before you use it. Throw away any insulin that is older than the expiration date.
- Do not use insulin that is lumpy, sticks to the edges of the pen or is a color that doesn't look right.
- Throw the pen away after the insulin is gone.
- When you travel, keep your insulin with you. Do not leave it in a car or other vehicle. It is a good idea to travel with extra supplies (insulin, syringes and test strips).

## Tip

Keep your medicines and supplies in your carry-on luggage.

- Regulations for airline travel may apply. Check with the airline before you fly.
  - Keep all medicines in their original containers with the pharmacy labels on.
  - Talk with your diabetes educator for more travel suggestions.

## How to Measure and Inject a Single Type of Insulin Using an Insulin Bottle and Syringe

1. Wash your hands.
2. Roll the bottle of cloudy insulin between your hands and turn it upside down to mix.
3. Remove the cover from the needle.
4. Draw air into the syringe equal to your prescribed dose of \_\_\_\_\_ units.
5. Put the needle into the top of the insulin bottle and shoot air in.
6. Turn the bottle and syringe upside down.
7. Pull down and push up on the plunger 2 or 3 times — slowly — to get rid of air bubbles. Look carefully to make sure that all bubbles are gone.
8. Draw out your prescribed amount of insulin: \_\_\_\_\_ units \_\_\_\_\_ type.
9. Pull the needle out of the bottle.
10. Clean the skin at the injection site, if needed.
11. Gently pinch skin and inject insulin. Your diabetes educator or health care provider will tell you where to inject your insulin (usually the abdomen).

# How to Measure and Inject Two Types of Insulin Using Insulin Bottles and Syringes

## Important

Do not mix Lantus<sup>®</sup> or Levemir<sup>®</sup> with any other insulin.

1. Wash your hands.
2. Roll the cloudy bottle of insulin between your hands and turn it upside down to mix.
3. Remove the cover from the needle.
4. Draw air into the syringe equal to your prescribed dose \_\_\_\_\_ (number of units) of cloudy \_\_\_\_\_ (name) insulin.
5. Put the needle into the top of the cloudy bottle and shoot air in. Remove the needle. **Do not draw out the insulin yet.** Set the bottle aside.
6. Draw air into the syringe equal to your prescribed dose of \_\_\_\_\_ (number of units) of clear \_\_\_\_\_ (name) insulin.
7. Put the needle into the top of the clear bottle and shoot air in. **Do not remove the needle.**
8. Turn the clear bottle and syringe upside down.
9. Pull down and push up on the plunger 2 to 3 times — slowly — to get rid of air bubbles. Look to make sure all bubbles are gone.
10. Draw out your prescribed amount of clear insulin \_\_\_\_\_ (number of units).
11. Pull the needle out of the clear bottle.
12. Put the needle into the cloudy bottle. **Do not push the plunger in.**
13. Draw out the total insulin units prescribed. Clear dose \_\_\_\_\_ + cloudy dose \_\_\_\_\_ = total dose (\_\_\_\_\_). Make sure the amount of insulin in your syringe does not exceed the total units prescribed.



14. Pull the needle out of the bottle. Clean the injection site if needed.
15. Gently pinch your skin and inject the insulin. Your diabetes educator or health care provider will tell you where to inject your insulin (usually the abdomen).

# How to Get Rid of Your Sharps (Needles, Syringes and Lancets) Safely



Source: Minnesota Pollution Control Agency

**Many pharmacies sell sharps containers.**

## Important

**Never throw loose sharps in the trash.**

You can throw sharps in the trash only if you do **all** of the following:

- Make your own sharps disposal container at home. (An empty laundry detergent bottle labeled “sharps” works great for this!)
- Once it is three-fourths full, screw on the lid and seal it with tape.
- Throw the sealed container in the trash.

## How to store your sharps at home

You will need to have a special container to store your used sharps at home. You can:

- buy a sharps disposal container from your pharmacy.
- make your own container. Visit [fda.gov](http://fda.gov) and type “sharps disposal container” into the search box for instructions.

When storing sharps at home, it is important to remember the following.

- Always keep your sharps storage container in a place where children and pets cannot reach it.
- Follow any directions from your county drop-off site or mail-back programs.

## How to get rid of your sharps

When the container is three-fourths full:

- return the sharps to your county drop-off site  
or
- send them to a mail-back program.  
You will have to pay for this.

**Allina Health hospitals and clinics do not accept sharps. Please do not bring them to your hospital or clinic.**

## Whom to call with questions

Please call your city or county government’s household trash and recycling service with questions. You can also visit the following websites for more information.

- If you live in Minnesota, visit [pca.state.mn.us](http://pca.state.mn.us).
- If you live in Wisconsin, visit [dnr.wi.gov](http://dnr.wi.gov).

# Chapter 10:

## Hypoglycemia or Low Blood Glucose

### **In This Chapter:**

- Symptoms
- Treatment
- Food Needs After a Hypoglycemic Event
- Things to Remember
- Insulin, Hypoglycemia and Driving



# Chapter 10: Hypoglycemia or Low Blood Glucose

Hypoglycemia means that your blood glucose is low — generally below 70 mg/dL\*. Symptoms occur quickly and need to be treated as soon as possible.

\*Low glucose levels vary from person to person, so it is important to ask your health care provider or diabetes educator what is too low for you.

Causes	Prevention
Not enough food	Eat all your meals and snacks on time.
More physical activity than usual	Avoid exercise during diabetes medicine peak time.
Drinking alcohol without food	Always eat a snack or a meal when you drink alcohol. (See Chapter 4 — Alcohol.)
Too much diabetes medicine	Take only the dose that has been prescribed.

## Symptoms

### Tip

It is best to be safe. It will not harm you if you take some glucose even if you just suspect that your blood glucose is low.

### Mild (one or more of the following):

- sweating
- shaking
- feeling weak and tired
- feeling anxious or nervous feeling
- racing heart
- feeling hungry
- having a mild headache
- tingling sensation around lips and tongue

### More severe:

- glassy eyes or staring
- slurred speech
- confusion
- staggering walk

## Very severe (rare):

- loss of consciousness
- seizures

## Treatment

### Tip

A medical identification bracelet or necklace with “Diabetes” on it can help people help you if you can’t help yourself. Although not as easily noticed, you can carry a card in your purse or wallet that says you have diabetes.

- Test your blood glucose as soon as you feel symptoms.
- If your level is low, treat with 15 grams of carbohydrate. Examples include:
  - ½ cup of fruit juice (you don’t need to add sugar)
  - ½ cup of regular soda
  - 7 to 8 pieces of candy
  - 1 tablespoon of honey or sugar
  - 2 tablespoons of raisins
  - 3 large marshmallows
  - 1 cup of fat-free milk
  - 4 glucose tablets
  - 15 grams of glucose gel.
- Retest your blood glucose every 15 minutes until your blood glucose is above 80 mg/dL without symptoms.

## Food Needs After a Hypoglycemic Event

After a hypoglycemia event you may need more food:

- If your next meal or snack is less than 1 hour away, don’t make any changes.
- If your next meal or snack is 1 to 2 hours away, eat a piece of fruit, **or** 6 saltines, **or** drink 1 cup of fat-free milk **or** eat any food that contains 15 grams of carbohydrate.
- If your next meal or snack is more than 2 hours away, eat a piece of fruit plus 1 cup of fat-free milk, **or** 1 cup of fruit juice **or** any food that contains 30 grams of carbohydrate.

## Things To Remember

Do not subtract what you eat to treat hypoglycemia from your next snack or meal. This food is needed to keep your blood glucose in a better range.

Also, if you have unexplained hypoglycemia often (two times in 1 day or 2 days in a week), call your health care provider or diabetes educator.

## Insulin, Hypoglycemia and Driving

### Important

If you are on insulin, you may be required by state law to submit a special document from your health care provider stating you can drive safely. Talk to your health care provider if you have questions.

You can also check the Department of Public Safety or Department of Transportation website for your state's requirements.

- **If you live in Minnesota, visit:**  
[dps.mn.gov](http://dps.mn.gov)
  - Type “diabetes” in the search box to find more information.
- **If you live in Wisconsin, visit:**  
[dot.wi.gov](http://dot.wi.gov)
  - Type “diabetes” in the search box to find more information.

If you take insulin, always check your blood glucose before you drive.

- Do not drive if your blood glucose is lower than 80 mg/dL.
- If your blood glucose is between 80 and 100 mg/dL, eat 10 to 20 grams of fast-acting glucose.
- Increase your carbohydrates for longer drives.
- Always keep a fast-acting carbohydrate (glucose tablets, candies, fruit juice) in your vehicle. See the list on the previous page.





# Chapter 11:

## Hyperglycemia or High Blood Glucose

### **In This Chapter:**

- Treatment and Prevention
- Blood Glucose Scale for Type 2 Diabetes



# Chapter 11: Hyperglycemia or High Blood Glucose

Hyperglycemia means that your blood glucose is above your target range and you need to take action to lower it.

## Causes

- too much food
- not enough diabetes pills or insulin
- not enough physical activity
- surgery
- steroid medicine
- illness
- infection
- physical or emotional stress

## Symptoms

- increased thirst
- frequent urination
- less energy
- blurred vision
- hunger

## Treatment and Prevention

### Target Blood Glucose Ranges:

Fasting:

\_\_\_\_\_

2 hours after meals:

\_\_\_\_\_

Bedtime:

\_\_\_\_\_

The best way to treat hyperglycemia is to pay attention to your daily routine or manage your diabetes. In your daily routine:

- Follow your food and activity plan.
- Check your blood glucose regularly.
- Check your urine ketones if recommended.
- Notice any signs of illness or infection.

Call your health care provider or diabetes educator if your blood glucose is over 250 mg/dL for 2 to 3 days in a row. You may need a change in your treatment.

If you have type 2 diabetes, follow the blood glucose scale on the next page.

# Blood Glucose Scale for Type 2 Diabetes

## If your blood glucose is:

Way too high! You could be headed for trouble.

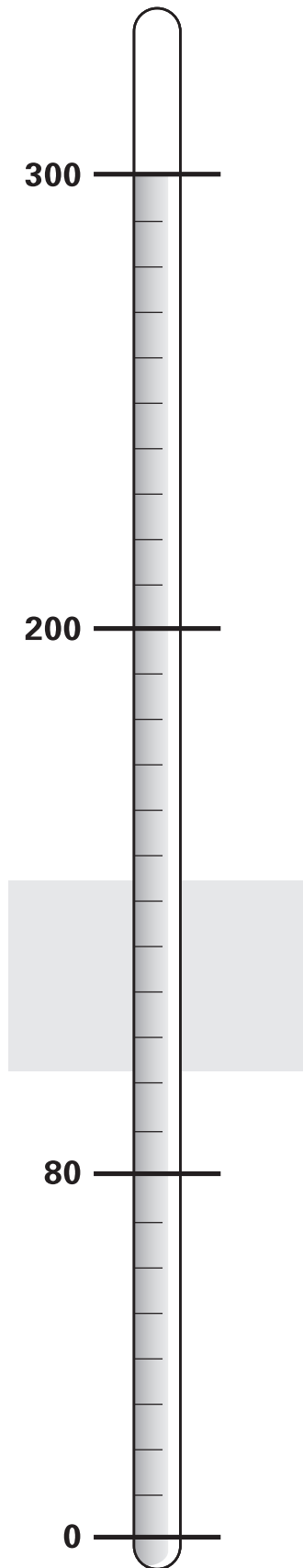
Still too high!

Not dangerous, but not where you want to keep your blood glucose.

Good safe range.

OK.

Too low!



## What you should do:

Retest in 4 hours. Call your health care provider if it is still more than 300.

Test 4 times a day. Call your health care provider if most tests are 200 to 300 for 2 or 3 days.

- Improve food and activity plan, if needed.
- Make sure you are taking your diabetes pills or insulin.
- Test more often.
- Call your health care provider if consistently over \_\_\_\_\_ (before meal) or \_\_\_\_\_ (after meal).

Your target range is \_\_\_\_\_.

Time for a snack or meal.

Eat or drink something with 15 grams carbohydrate. If below 70, retest in 10 to 15 minutes to make sure it is now 80 or higher. If still below 70, eat or drink something with 15 grams carbohydrate again.



# Chapter 12:

## Sick Days and Diabetes

### **In This Chapter:**

- What You Can Do
- Ketones
- When to Call Your Health Care Provider





# Chapter 12: Sick Days and Diabetes

It is important to remember that illness may cause blood glucose levels to rise.

## What You Can Do

### Tip

Monitoring your blood glucose more often when you are sick can prevent problems. It is a good idea to teach someone else to do the test just in case you need help when you are sick.

- Always take your insulin or oral (by mouth) diabetes medicine. Do not stop taking diabetes medicine without advice from your health care provider, nurse or diabetes educator.
- For people with type 1 diabetes, test urine for ketones if blood glucose is more than 250 mg/dL. If ketones are present, test blood glucose and urine ketones every 3 to 4 hours.
- **If your blood glucose is more than 200 mg/dL, drink at least ½ to 1 cup of sugar-free liquid every hour.**

### Examples of sugar-free liquids:

- water
- diet soda
- diet gelatin
- diet flavored ice on a stick
- unsweetened tea
- other helpful liquids include salt-containing broth and soup

- **If your blood glucose is less than 200 mg/dL, some of your liquids should contain carbohydrate.**

### Examples of liquids that contain carbohydrate:

- regular soda
- regular gelatin
- juices
- sports beverages

- When you do feel like eating again, the extra liquids should be sugar-free. Start with carbohydrate-containing foods that are easy to tolerate every few hours such as:
  - ½ cup cooked cereal
  - 6 saltine crackers
  - 3 graham crackers
  - ½ cup custard, yogurt, sherbet or pudding.
- Test your blood glucose every 4 hours during the day and at least once during the night.
- Keep a record of the times and numbers of your blood glucose and urine ketones.
- Have someone at home with you or tell someone that you are sick so he or she will check on you.

## Ketones

Ketones are by-products of fat breakdown in your body. When found in your urine, they indicate you're not eating enough calories at regular times during the day or that your blood glucose is too high. Most people with type 2 diabetes do not need to check for ketones.

Small amounts of ketones in your morning urine can occur from:

- not eating enough the previous day
- missing your bedtime snack
- not eating all the carbohydrate choices in your meal plan
- more physical activity than usual the day before.

Large amounts of ketones may be seen if you have:

- extreme morning sickness during pregnancy
- throwing up (vomiting) and diarrhea so you can't eat or drink
- illness or infection.

High levels of ketones can poison the body, resulting in a condition called diabetes ketoacidosis (DKA).

Symptoms of DKA include:

- abdominal pain
- upset stomach (nausea) and throwing up
- decreased appetite
- weight loss
- blurry vision
- increased thirst and more frequent urination
- dry mouth, eyes and skin or warmth and redness in your face
- feeling tired and weak
- confusion
- fruity, sweet-smelling breath
- fast, deep breathing and increased heart rate
- mood changes.

DKA can lead to diabetic coma or death. Anyone with diabetes is at risk but it is rare in people with type 2 diabetes.

You may have an increased risk of DKA if you:

- are not taking your insulin or the right amount of insulin
- had a stroke, heart attack, surgery, injury, infection or another problem (condition) that puts extra stress on your body
- are taking certain medicines. Talk with your health care provider about your medicines.
- are having your monthly period
- are taking street drugs.

Talk with your health care provider or diabetes educator if you have questions.

## When to Call Your Health Care Provider

- Your blood glucose is more than 250 mg/dL for 2 tests in a row **and** urine ketones are positive for 2 to 3 consecutive checks.
- Your blood glucose is consistently very high (more than 300 mg/dL) even though there are no urine ketones present.
- You have questions about how much insulin or oral (by mouth) diabetes medicine to take.
- You are unable to eat or drink because of upset stomach, throwing up or both.
- You have been throwing up for more than 6 hours or have had more than 5 episodes of diarrhea in 1 day.
- You have a temperature higher than 101 F or a high temperature that lasts longer than 48 hours.

# Chapter 13:

## Caring for Feet, Skin and Teeth

### **In This Chapter:**

- Caring for Your Feet
- Caring for Your Skin and Teeth



# Chapter 13: Caring for Feet, Skin and Teeth

## Caring for Your Feet

### Tip

Remember to take your shoes and socks off at each diabetes visit with your health care provider. This will remind you that you need to have your feet looked at regularly.

Good personal care can prevent problems caused by diabetes. Daily attention and regular exams are important. You need to take extra care of your feet and legs. High blood glucose can cause damage to the nerves and blood vessels in your feet and lower legs. When nerves are damaged, you don't feel problems like sores or cuts on your feet.

Amputations caused by diabetes could be reduced by as much as 75 percent with good self-care and regular foot exams by your health care provider.

- Look at your feet every day to check for sores, cuts, cracks or blisters.
- Use a hand mirror (or ask a family member) to check the bottoms of your feet.
- Wash your feet with slightly warm water every day.
- Do not soak your feet because this will dry them out and might cause problems like cracking.
- Always check inside shoes for worn areas or objects that could cause a sore on your foot. New shoes should be broken in slowly. Ask your health care provider if you need special shoes.
- Use lotion or cream for dry skin but do not use it between your toes.
- Cut toenails straight across and smooth out sharp edges.
- Ask your health care provider or nurse to examine your feet at every checkup.
- Wear proper shoes and socks even when indoors.
- Protect your feet from hot or cold. Don't use heating pads or hot water bottles on your feet.
- Do not use tobacco. It decreases the blood flow to your feet. Poor blood flow means slower healing and greater chance of infection.

# Caring for Your Skin and Teeth

People with diabetes need to be extra careful in taking care of their skin and teeth. Diabetes can cause problems with how the blood flows, how infections heal and how nerves are able to carry signals to various parts of the body. Regular care can help prevent these problems.

## Tip

Think of your skin as a glove that protects your feet and other parts of your body. Cracks in this “glove” allow germs and dirt to enter the body and cause problems.

## Caring for your skin

- Bathe or shower every day using mild soap and slightly warm water.
- Use lotion or cream for dry skin but do not use it between your toes.
- Use sunscreen whenever you are in the sun.
- Call your health care provider if a cut, sore or open wound is healing slowly.
- Talk to your health care provider about any other skin problems such as extreme itching or dryness.
- Protect your skin by wearing gloves when you do work that may injure your hands.
- Dress warmly in cold weather to prevent frostbite.

## Caring for your teeth

You may have more problems with your teeth and gums if you have high blood glucose.

- Remind your dentist at each visit that you have diabetes.
- Brush at least 2 times a day and always before you go to sleep.
- Floss each day to help remove plaque from between your teeth.
- Get your teeth cleaned and checked by a dentist every 6 months.
- Don't use tobacco. This decreases blood flow and causes gum problems.



# Chapter 14:

## Preventing Diabetes Problems (Complications)

### **In This Chapter:**

- Large Blood Vessel Disease
- Small Blood Vessel Disease
- Keeping Your Heart Healthy When You Have Diabetes
- Tobacco and Diabetes Problems (Complications)



# Chapter 14: Preventing Diabetes Problems (Complications)

Over time, diabetes-related risk factors such as high blood glucose, high blood fats and high blood pressure can damage your blood vessels. This damage can lead to long-term (chronic) problems (complications) that can affect your heart, kidneys and eyes. These problems can also affect body systems such as the nervous system.

To prevent or delay long-term problems of diabetes:

- Keep your blood glucose and blood pressure in your target range.
- Live a healthy, balanced lifestyle.
- Get regular checkups with your health care provider.

## Large Blood Vessel Disease

Large blood vessels help move blood to your heart, brain and legs. These blood vessels can be damaged by:

- **high blood glucose and high blood pressure.**  
These can reduce blood flow to the heart, brain and legs.
- **high blood fats (cholesterol and triglycerides).**  
These can cause hardening of the arteries (atherosclerosis), which decreases blood flow.

People with diabetes are at an increased risk for heart attacks, strokes and decreased blood flow to the legs (called peripheral artery disease).

**Signs of large blood vessel disease include:**

- slow healing of sores on legs and feet
- cold feet
- loss of hair on feet
- red feet when they dangle
- leg pain that comes with activity and goes away with rest (called intermittent claudication)
- chest pain (called angina).

## Small Blood Vessel Disease

Small blood vessel disease in the eyes and kidneys can happen more often in people with diabetes. Small blood vessel disease can also damage nerves.

### Eyes (retinopathy)

High blood glucose and high blood pressure can change blood vessels in the back of your eye (retina). New weak blood vessels form which can leak or bleed heavily (hemorrhage). The bleeding can reduce eyesight or cause a total loss of vision.

Regular visits to an eye doctor (ophthalmologist) can help save your sight. Early signs of eye problems connected with diabetes can be detected at these visits. Laser treatments are used for retinopathy.

During your yearly eye checkups, your eye doctor will check for cataracts (clouding of the lens) and glaucoma (increased pressure in the eye). These problems happen more often in people with diabetes.

### Signs of eye problems include:

- flashes of light
- floating black spots
- double or blurred vision
- pain or similar signs.

Call your eye doctor or health care provider right away if you have any of these signs. Many people with diabetes do not have any early signs of eye problems.

### To prevent eye problems:

- Keep your blood glucose and blood pressure in your target range.
- Do not use tobacco.
- See an eye doctor yearly (more often if needed).
- Avoid weight lifting if you have proliferative retinopathy (a condition that causes bleeding, cloudy vision and damage of the retina).

## **Kidneys (nephropathy)**

High blood glucose and high blood pressure can damage a kidney's small blood vessels.

Your kidneys are your body's filters, removing dangerous toxins and wastes from your blood. In some people with diabetes, high blood glucose levels seem to cause the kidneys to work harder than needed to keep waste levels low.

This overwork appears to cause too much wear and tear on the kidneys. Over time, they can no longer do their job. Small kidney blood vessels called glomeruli get damaged and begin to leak. This damage can get worse until the kidneys fail.

High blood pressure, common in people with diabetes, also puts stress on kidneys. Your health care provider will keep a close watch on your blood pressure for this reason.

An early sign of kidney damage is having small amounts of protein in your urine (microalbuminuria). Routine urine and blood tests can alert your health care provider to developing kidney problems.

Controlling your blood pressure and keeping your blood glucose in your target range will help delay or slow the onset of diabetic kidney disease. If kidney failure occurs, dialysis or a kidney transplant is a treatment option.

### **Signs of kidney damage include:**

- protein in the urine: may indicate infection or nephropathy.

There are no signs of kidney damage in the early stages.

## Important

Call your health care provider if you have any of the signs of sensory, motor or autonomic neuropathy.

### To prevent kidney damage:

- Keep your blood pressure and blood glucose in your target range.
- Do not use tobacco.
- Do not take medicines that could harm your kidneys. Talk with your health care provider about your medicines.
- Contact your health care provider right away if you have any signs of a kidney or bladder infection. Signs include: low back pain, fever, frequent urination, burning sensation while urinating or blood in the urine.

### Nerves (neuropathy)

Small blood vessel disease and a buildup of sorbitol (a byproduct of high blood glucose) in the nerves can damage nerves in various parts of your body:

- **Peripheral neuropathy:** damage to nerves in your arms and legs. This could be in the form of sensory neuropathy or motor neuropathy.

#### Sensory neuropathy signs include:

- numbness
- tingling or burning feelings, or both
- pain in the arms or legs.

#### Motor neuropathy signs include:

- loss of balance
- loss of muscle mass
- foot deformities.

- **Autonomic neuropathy:** damage to nerves that control automatic body processes such as heartbeat, blood pressure, digestion, urination and sexual function.

**Autonomic neuropathy signs include:**

- sexual dysfunction (impotence in men, decreased vaginal lubrication and arousal disorder in women)
- silent heart attack (heart attack with no chest pain)
- excessive sweating or dry skin
- food digestion process that is slow and not predictable
- constipation alternating with diarrhea
- bladder problems
- lack of low blood glucose symptoms
- a sudden drop in blood pressure when you stand that makes you feel faint or dizzy.

**To prevent nerve damage:**

- Keep your blood glucose and blood pressure in your target range.
- Do not use tobacco.

Treatment for neuropathy depends on the type of neuropathy. There are many medicines available.

Long-term problems do not occur in all people with diabetes. You can prevent them from developing or catch them early while they are treatable. See your health care provider on a regular basis and follow your diabetes self-management plan.

# Keeping Your Heart Healthy When You Have Diabetes

## Glucose goals

As someone with diabetes, you know how important it is to reach your blood glucose goal. Good glucose control can help you avoid problems with your heart, blood vessels, eyes, kidneys and nerves. But blood glucose control alone is not enough to keep you safe from problems.

## Blood pressure and cholesterol goals

Diabetes is a risk factor for cardiovascular disease (CVD), the leading cause of early death among people with diabetes. CVD refers to a diseased heart (cardio) and diseased blood vessels (vascular). CVD can cause heart disease, stroke, vision loss, kidney failure and nerve damage.

Two conditions that can lead to CVD are high blood pressure and high levels of low-density lipids (LDL or “bad” cholesterol).

Understanding blood pressure and cholesterol and reaching recommended goals can help prevent CVD and reward you with a healthier heart.

## Blood pressure basics

Blood pressure is pressure on the walls of your blood vessels as your heart pumps blood through your body.

If your blood vessels become clogged and narrowed, your blood pressure will increase. It may also increase if you are overweight, have kidney problems or drink too much alcohol. High blood pressure can run in families.

High blood pressure can lead to heart attack or stroke, eye problems and more severe kidney problems.



Blood pressure is written as two numbers separated by a slash, such as 130/80. This is often called a blood pressure reading.

- The top number shows the maximum pressure on your arteries when your heart contracts and forces blood through your body.
- The bottom number shows the minimum pressure on your arteries when your heart relaxes and refills with blood.

### **Blood pressure goal**

Allina Health recommends a blood pressure of 139/89 or less.

### **What can help control blood pressure?**

If your blood pressure is high, your health care provider may ask you to take a medicine called an ACE inhibitor. This type of blood pressure medicine is best for people with diabetes. In addition to lowering your blood pressure, it may help keep your kidneys healthy. Your health care provider may also suggest you:

- lose weight
- eat more fruits and vegetables
- reduce the amount of salt you eat
- drink less alcohol
- get regular physical activity.

It is important that you get your blood pressure checked each time you visit your health care provider.

### **Cholesterol basics**

Cholesterol is a fat-like substance in your blood. Your body makes some cholesterol to help it function properly. You may also get cholesterol from some of the foods you eat and you may inherit a tendency toward high cholesterol.

When your blood cholesterol level is too high, the cholesterol builds up on the walls of your arteries. Over time, this can:

- **block the flow of blood to your heart, depriving it of oxygen** (A partial blockage may result in chest pain. A total blockage will cause a heart attack.)
- **block the flow of blood to your brain, depriving it of oxygen.** (A total blockage will cause a stroke.)

## **Cholesterol goals**

The American Heart Association and American College of Cardiology recommend taking a statin medicine to protect your arteries and reduce your risk of heart disease.

## **What can help control cholesterol?**

You can help control your cholesterol level in the following ways:

- Eat foods low in saturated fat, trans fat and cholesterol. This includes:
  - vegetables and fruits
  - whole grains
  - fat-free or low-fat dairy foods and beverages
  - lean protein such as chicken breast, turkey breast, fish, legumes (beans, lentils, peas) and soy
  - healthful oils (olive oil, avocado oil) and nuts.

Limit sweets, sugar-sweetened beverages and red meats. Limit or avoid eating “tropical” oils such as coconut, palm kernel and palm oils.

- Lose weight if you are overweight. This can lower your LDL level and raise your HDL level.

- Be physically active 3 to 4 times each week for a total of at least 150 minutes. This can also lower your LDL level and raise your HDL level.
- Take any medicine to lower your cholesterol as prescribed. Eating more healthful foods and increasing your activity level are often not enough to reach your cholesterol goals.

You may have a high cholesterol level and not yet have any signs of disease. Your health care provider will recommend how often to have your cholesterol level checked.

### **Low dose of aspirin**

Research shows that if you have diabetes and have heart disease or have had a stroke, taking a low dose of aspirin every day may reduce your risk of more problems.

Aspirin helps prevent blood clots that can block the flow of blood and lead to a heart attack or stroke. But taking aspirin is not safe for everyone, so it is important to talk with your health care provider before you start taking aspirin every day.

**Important: Taking aspirin with blood thinners may increase your risk for bleeding.**

# Tobacco and Diabetes Problems (Complications)

Using tobacco makes diabetes harder to control. People who do not use tobacco use less insulin and other medicine to keep diabetes under control.

## Did You Know

Smokeless tobacco contains *a lot* of sugar. This can make it harder to control your glucose levels.

## How tobacco affects you

Tobacco:

- damages and narrows blood vessels
  - This can lead to infections and amputations.
- increases insulin resistance
  - This can raise your blood glucose.
- increases blood pressure
  - This can lead to stroke or heart disease.
- makes your blood vessels and arteries “sticky,” which can block blood flow
  - This raises your risks for heart disease, kidney disease, retinopathy (eye disease that causes blindness) and nerve damage (peripheral neuropathy).

## E-cigarettes: what you need to know

Electronic cigarettes (e-cigarettes or e-cigs), JUUL<sup>®</sup>, hookah pens, vapes, vaporizers, vape pens, e-hookah, e-pens, e-pipes, e-cigars and disposables are all known as electronic nicotine delivery system (ENDS).

E-cigarettes have become very popular very quickly. This means there has not been time to get results from long-term studies on the safety or health effects of e-cigarettes.

- A 2018 public health research report supported by the FDA confirms that using ENDS products is harmful. Use causes health and safety problems and greatly increases tobacco addiction among adolescents.
- The name of the report is “Public Health Consequences of E-cigarettes” by the National Academies of Science, Engineering, Medicine (NASEM).”

## E-cigarettes and quitting smoking

- The FDA has not approved e-cigarettes as a way to quit smoking. According to the 2018 NASEM report, there is “limited” evidence that e-cigarettes help some people to quit smoking. Many people return to smoking, continue to use the e-cigarette, or use both. None of these options is healthful.
- If you want to quit smoking, there are FDA-approved medicines that you can use. These medicines have been studied and are proven to help you quit smoking.

Talk with your health care provider, pharmacist or tobacco counselor. He or she can help you decide which type of medicine is right for you.

## Benefits of quitting

- Your body responds quickly to quitting:
  - **8 hours:** The carbon monoxide level in your blood drops to normal. The oxygen level in your blood increases to normal.
  - **24 hours:** Your chance of heart attack decreases.
  - **48 hours:** Nerve endings start to grow again.
  - **2 weeks:** Circulation to your hands and feet improve. Your ability to exercise improves.

(Source: World Health Organization)
- There are many health benefits to quitting. Quitting:
  - lowers your chances of stroke, heart disease, insulin-resistance and nerve damage
  - gives you better glucose control
  - lowers your risks of many types of cancers.

## Not Ready to Quit? Consider Taking a Break!

If quitting tobacco seems like too much right now, consider taking a break or a vacation from tobacco use.

This can help you get your blood glucose under control by restoring balance\*.

- Set a goal to stop using tobacco.
- Talk with your health care provider for resources or ways to cope with withdrawal symptoms.

If this goes well, maybe you will take more breaks during the year. This could lead to a tobacco-free life!

\*Keep taking your medicine.

## Suggestions for quitting tobacco

Studies show that the most successful way to quit uses counseling, medicines and follow-up. Ask your health care provider for more information.

- Prepare to stop.
  - Get support from family and friends.
  - Avoid places where you know you will want to use tobacco.
  - Plan activities to replace using tobacco.
- Choose a day to stop.
  - Get rid of cigarettes, ashtrays and lighters.
- Stop.
  - Stop on the day you planned to stop.
  - Be careful with situations or activities in which you might be tempted to start using tobacco again.
  - Try to keep your focus on today, not the future. Tell yourself, “I am not smoking today.”
- Stay stopped.
  - Think positive thoughts. Remember why you decided to stop. Reward yourself.
  - Remember that your craving will pass whether you use tobacco or not.
  - Do not play games like telling yourself, “One cigarette won’t hurt,” “I deserve a cigarette,” “I just want to see how a cigarette tastes.” Your brain might tell you these things to persuade you to go back to tobacco.



\*There may be a cost to you.  
Check with your insurance provider.

## Resources for quitting

### Allina Health

- Tobacco Intervention Program at Abbott Northwestern Hospital  
— 612-863-1648
- Tobacco Intervention Program at Mercy Hospital  
— 763-236-8008
- Tobacco Intervention Program at River Falls Area Hospital  
— 715-307-6075
- \*United Hospital Lung and Sleep Clinic Tobacco Cessation Program  
— 651-726-6200
- \*Penny George™ Institute for Health and Healing (LiveWell Center) tobacco intervention coaching  
— 612-863-5178

### Other

- Quit Partner  
— 1-800-QUIT-NOW (1-800-784-8669) or [quitpartnermn.com](http://quitpartnermn.com)
- Minnesota Department of Health  
— [health.state.mn.us/quit](http://health.state.mn.us/quit)
- online tobacco cessation support  
— [smokefree.gov](http://smokefree.gov)
- American Lung Association/Tobacco Quit Line  
— 651-227-8014 or 1-800-586-4872
- Chantix® GetQuit Support plan  
— 1-877-CHANTIX (1-877-242-6849) or [get-quit.com](http://get-quit.com)
- financial aid for Chantix® or Nicotrol® inhaler  
— 1-866-706-2400 or [pfizerrxpathways.com](http://pfizerrxpathways.com)
- \*Mayo Clinic Nicotine Dependence Center's Residential Treatment Program  
— 1-800-344-5984 or 1-507-266-1930

■ Plant Extracts aromatherapy  
— 1-877-999-4236



# Chapter 15:

## Guidelines for Diabetes Care

### **In This Chapter:**

- Exams
- Tests
- Shots (Immunizations)
- Information About Exams, Tests and Shots



# Chapter 15: Guidelines for Diabetes Care

You are the most important member of your health care team. Talk about your diabetes care with your health care provider. This will help him or her find problems in the early stages when they are more treatable.

## Exams

Type of Exam	How often
Visit with your health care provider — includes diabetes treatment plan review, foot exam, height, weight and blood pressure check*	every 3 to 6 months, based on health status
Retinal eye exam	every year
Foot exam	every year or more often if there is a problem
Diabetes education update	every year
Dental visit	every 6 months
*Talk about the use of aspirin, ACE inhibitors and a statin.	

## Tests

Type of Test	How often	Target range
A1c blood test	You should have this test at least 2 times a year, more often if A1c goals are not met.	less than 7 percent for most people
Microalbuminuria (kidney)	every year for most people	30 mcg/mL or less
Blood pressure	every visit	139/89 mm Hg or less

## Shots (Immunizations)

Type of Immunization	How often
Flu shot	every fall
Pneumonia vaccine	One time, although some people may need a second dose. Ask your health care provider.
Tetanus	every 10 years
Hepatitis B vaccine	One time, a series of 3 shots for ages 19 to 59 years old within 6 months.

## Information About Exams, Tests and Shots

- **Retinal eye exam:** A complete eye exam includes dilation of the retina to check for disease (retinopathy) or change. This may prevent blindness.
- **Foot exam:** A complete exam of your feet includes testing for feeling, color and pulse. One of the tools used is called a monofilament.
- **Diabetes education:** Learn about individual or group classes.
- **Diabetes education with a dietitian:** A dietitian can talk with you about healthful food choices. He or she can help create a calorie and carbohydrate count that fits well with your schedule and lifestyle.
- **A1c:** This lab test reflects your average blood glucose level over the past 3 months.
- **Microalbumin:** This test finds small amounts of protein in urine. An increase of the amount of protein in urine is a sign of kidney failure in people who have diabetes.
- **Blood pressure check:** Untreated high blood pressure can lead to heart disease, stroke, leg diseases, kidney failure and eye diseases. An ideal blood pressure is 139/89 or lower.
- **Flu shot:** Flu vaccine will prevent or lessen flu symptoms November through February.
- **Pneumonia shot:** Pneumonia vaccine will prevent pneumococcal pneumonia in adults older than age 65 and those who have high-risk problems such as diabetes or asthma.

# Chapter 16:

## Pregnancy and Diabetes

### **In This Chapter:**

- Preparing for Pregnancy
- Planning for Your Pregnancy



# Chapter 16: Pregnancy and Diabetes

## Preparing for Pregnancy

### Tip

If you have not prepared for pregnancy and you become pregnant, it is important that you call your health care provider to make an appointment as soon as you think you are pregnant. This will allow you to work with your health care provider to make the changes needed to help ensure a healthy, safe pregnancy.

Preparing for a healthy pregnancy begins with excellent care of your diabetes before you conceive. Good blood glucose control 3 to 6 months before conception helps promote fertility and helps prevent birth defects or chances of a miscarriage.

Don't stop using birth control until your diabetes is in good control. Good control is measured by two things:

- a near-normal A1c level (ideally at or around 6)
- near-normal blood glucose levels fasting, before meal(s) and 2 hours after meal(s).

Insulin is the medicine that is used to control blood glucose during pregnancy. If you are taking diabetes pills and are planning a pregnancy, talk with your health care provider before you stop taking your birth control.

Your health care provider will tell you if and when you must stop taking your diabetes pills. Together, you will also make a plan about when you will start taking insulin.

If you are on any other medicines, be sure to check with your health care provider to see if they are safe to use during pregnancy.

Take a multivitamin that contains folic acid before and during pregnancy.

## Planning for Your Pregnancy

The following needs to be done for good blood glucose control before pregnancy.

- Meet with your health care provider or diabetes educators (nurse and dietitian) to get a pregnancy care plan in place.
- A pregnancy and diabetes care plan often includes:
  - a meal plan to improve blood glucose control and to provide proper nutrition
  - a schedule for when to test your blood glucose
  - blood glucose goals
  - physical activity plan
  - diabetes medicine checks and change in insulin as needed.
- If you need, your health care provider can give you information on how to quit using tobacco and avoid alcohol.

Extra visits with members of your health care team are essential for a successful pregnancy. You and your partner should talk about how these extra visits will affect your lives and how to plan for these changes.

Day-to-day tasks of meal planning, physical activity, blood glucose monitoring and insulin use will take extra time and commitment on your part. It will also likely result in added costs.

Talk with your partner about how these changes will affect your lives and how you can work together to help maintain good control of your diabetes during your pregnancy.



# Chapter 17:

## Resources

### In This Chapter:

- Resources
- Notes



# Chapter 17: Resources

## Resources

- Allina Health  
[allinahealth.org/diabetes](http://allinahealth.org/diabetes)
- American Diabetes Association  
[diabetes.org](http://diabetes.org)  
763-593-5333 or 1-800-DIABETES
- American Dietetic Association  
[eatright.org](http://eatright.org)
- Diabetes Health  
[diabeteshealth.com](http://diabeteshealth.com)
- Diabetes Forecast  
[diabetesforecast.org](http://diabetesforecast.org)
- Diabetes Self Management  
[ndep.nih.gov](http://ndep.nih.gov)
- Juvenile Diabetes Research Foundation  
[jdrf.org](http://jdrf.org)
- **Senior LinkAge Line**  
[mnaging.org](http://mnaging.org)  
1-800-333-2433



# Notes

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# Nondiscrimination in Health Programs and Activities

## *Affordable Care Act – Section 1557*

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  - ◊ written information in other formats (large print, audio, accessible electronic formats, other formats)
- provides free language services to people whose primary language is not English, such as:
  - ◊ qualified interpreters, and
  - ◊ information written in other languages.

If you need these services, ask a member of your care team.

If you believe that Allina Health has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability, gender identity or sex, you can file a grievance with:

Allina Health Grievance Coordinator  
P.O. Box 43  
Minneapolis, MN 55440-0043  
Phone: 612-262-0900  
Fax: 612-262-4370  
GrievanceCoordinator@allina.com

You can file a grievance in person or by mail, fax or email. If you need help filing a grievance, the Allina Health Grievance Coordinator can help you.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at <https://ocrportal.hhs.gov/ocr/portal/lobby.jsf>, or by mail or phone at:

U.S. Department of Health and Human Services  
200 Independence Avenue, SW Room 509F, HHH Building  
Washington, D.C. 20201  
1-800-368-1019, 800-537-7697 (TDD)

Complaint forms are available at <http://www.hhs.gov/ocr/office/file/index.html>.





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